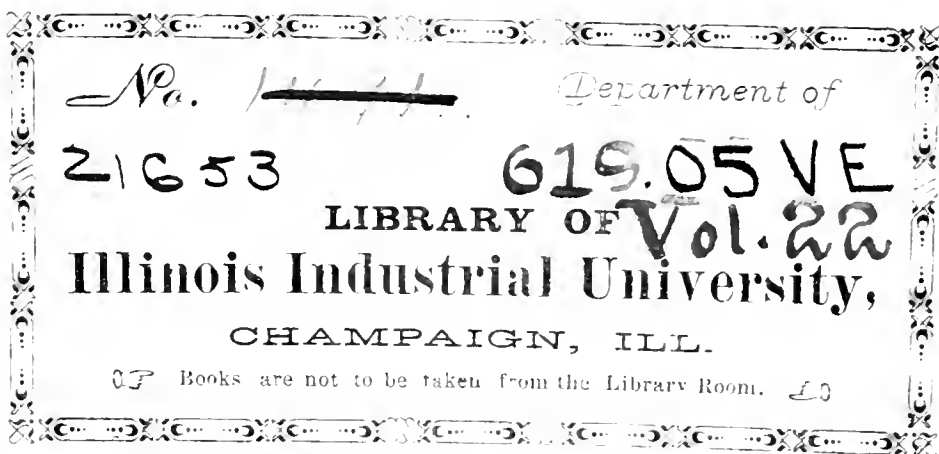


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EDITED BY

MR. PERCIVALL,

IN COMMUNICATION WITH M. LEBLANC, EDITOR OF THE
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Ars Veterinaria post medicinam secunda est.—Vegetius.

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LAMENESS IN HORSES.

By WILLIAM PERCIVALL, *M.R.C.S. and V.S.*

[Continued from vol xxi, p. 665.]

WINDGALLS OF THE FETLOCK.

ACCORDING to the vulgar acceptation of the term "*windgall*," as we have before had occasion to remark, the tumours we now are about to describe are those indicated, although in a pathological point of view others of a similar nature appear quite as much entitled to the appellation. In speaking of "*windgalls*," it would therefore render our meaning more definite would we qualify the generic name by such additions as *windgalls of*, or *in*, or *about the fetlock, pastern, knee, &c.*

THE WINDGALL OF THE FETLOCK constitutes one of the most ordinary forms in which we meet with the disease; and the everyday aspect of it, combined with the innocuousness of it in a general way, furnishes us with the reason of its being a disease concerning which we are less consulted than about almost any other. Bog-spavins and thorough-pins create occasional uneasiness in the minds of possessors of horses, while windgalls of the fetlocks are, as it were, altogether overlooked; or rather, perhaps, are regarded as nothing beyond what happens in "the regular course of nature." The only occasions on which windgalls seem to trouble the minds of horse-folk are, as we formerly observed, when failure in the fore limbs comes to be noticed, "*stiffness*," "*staleness*," or "*grogginess*," and then windgalls, if present—which they pretty invariably are—are apt to come in for a great deal more than their share of the causation of the recorded failure.

LAMENESS RARELY RESULTS FROM WINDGALLS, however; neither are they, under ordinary circumstances, to be regarded as sources even of weakness or inconvenience: in fine, common wind-

galls no way injure the limb nor detract from the sterling value of the animal. They most assuredly are, in horses of a certain age, or that have performed any great deal of labour, to be viewed as "signs of work:" at the same time, in the usual condition of such swellings, the limbs appear to act as freely and as firmly with as without them, and horses that have them in all their legs continue working for years without manifesting any complaint or indication of failure.

Connected in one instance, as windgalls are, with joints, in another with tendons, in another again with ligaments, use and sprain and contorsion of such parts must, of course, more or less affect them: indeed, under such circumstances it is that they oftentimes take their rise, and at all times become aggravated and magnified. And cases of this description do occur in which inflammation arising in contiguous parts extends to the bursæ, and implicates the windgalls in the cause of the pain and the lameness, in consequence of its rendering them sensitive and tender on pressure or motion. In sprains of the fetlock joint, and of the back sinews and suspensory ligament, this, we know, not infrequently takes place.

Under such circumstances as we have just described, or from repeated hard work, windgalls originally attracting no particular attention from their magnitude, will frequently acquire very large volume, and other parts of similar structure in their immediate vicinity will take on the same morbid action. Thus, windgalls about the fetlock now and then, in horses hard-worked or strained, extend high up the back of the leg, in consequence of the sheath of the flexor tendons participating in the same dropsical action. Whether any rupture of the original windgall happens, and so communication be established between it and the new-formed tumour, is a question in our mind still unsettled for want of a fitting subject for dissection. It is notorious enough, that there is a great deal of variation in the bulk of such large swellings, as there is, indeed, to some extent, in certain ordinary forms of windgalls, they being larger after work than at other times; hence it is we hear a person say, his horse's windgalls after work "run up to the hock:" owing, we repeat, to the implication of the vagina of the tendons. Now, in cases of this kind, it is very possible tenderness and stiffness, or even lameness, perhaps, may be observed, and be referrible to the enlarged and distended windgalls: there will be evinced a flinching and catching-up of the limb when the tumours are handled, and an uneasiness in standing manifested the day after the work by resting first one leg and then the other. Aged horses that have in their day worked hard are very apt to evince this sort of renewed irritation in their chronic and morbidly altered windgalls. Old coachers and posters afford evidence enough of this.

But give them, however, a day or two's repose, and all comes right again.

WINDGALLS OCCUR IN THE HIND FETLOCKS a great deal more frequently than in the fore, and likewise, in general, run to greater size in the former, and are more inclined to be troublesome, and so to call, whenever they do call, for remedial measures. They are likewise oftener seen in clean-limbed horses, and such as shew breeding, than in those of an opposite character. In all this we trace the consequences of exertion. We know how much more the hind limbs have to do in progression than the fore ones; and we also know how much quicker and suddener, and more trying and straining, are the movements of blood horses—of racers and hunters and well-bred harness horses—than those of half or coarse bred and cart horses.

THE SEAT OF THE FETLOCK WINDGALL is so well known that any description of it might appear not supererogatory merely, but ridiculous. And yet it may not have occurred to the superficial observer that the nature of windgall, which to him appears like one general or uniform swelling, is in reality *double*. Sometimes, it is true, there is but one place in which any tumour is found, and that is immediately above and behind the fetlock-joint, either on one side or, as is usual, on both. The double tumefaction is produced by the presence of a bursal tumour higher and still more backward, and commonly of less volume, than the former. And this, as well as the lower one, is apt to be more prominent upon the outer side of the leg than upon the inner; so much indeed, in some cases, that it actually curls round the back of the leg. The tumours have the ordinary puffy feel, and look, in shape at least, like pigeons' or birds' eggs inserted underneath the skin. Dissection unfolds to us that the superior windgall is lodged in the interval between the perforatus and perforans tendons, about two inches above the sesamoid bones: indeed, the sac of the windgall, from surrounding attachments to its borders, appears as though it gave passage to the perforans tendon through its cavity; though this appearance, in point of fact, is owing to the membrane of the bursa being reflected upon the surface of the tendon. The inferior and anterior windgall is situated half an inch lower down. It is seated in front of the perforans tendon, between it and the suspensory ligament, occupying the interval there existing between the bifurcations of the ligament just named. The connexion of these windgalls with the flexor tendons and suspensory ligaments of the limbs accounts for the opposite conditions in which they are found, tense or flaccid, according as the sinews are braced or unbraced. While the foot remains upon the ground and the muscles continue in action, the windgalls are full and firm to the feel; the

moment, however, the foot is raised, and a state of inaction succeeds, they become soft and compressible.

FETLOCK WINDGALLS UNDERGO MORBID CHANGES, however, the same as windgalls of other parts do : indeed, from the amount of irritation and aggravation they receive, they may be said to be more obnoxious to such changes. In the course of time, under the influence of work, they grow thicker and thicker in their sacs ; additional coatings are deposited upon them, to strengthen them, as it were ; and these depositions, from being cellular, in time become fibrous, callous, and even, as we have already seen in the case mentioned of Mr. King's, converted into bone, occasioning at first stiffness, then lameness, and ending in partial or complete immobility of joint. These changes, as they are brought about, account for the less and less puffiness and fluctuating character the swellings acquire by age ; as well as for the solid, even hard, feel they possess in their chronic state in the aged and used-up horse.

IT IS RARE FOR WINDGALLS TO REQUIRE TREATMENT, abstractedly, at least, from concomitant failings. Manifest disease or derangement exists in the fetlock joints—we say “ joints,” because they almost uniformly fail in pairs—and then, coupled with the presence of prominent windgalls, ample cause is usually discovered for either blistering or firing the affected joints, inclusive of the windgalls. Not that we shall thereby altogether get entirely rid of the windgalls ; but that we shall succeed by such remedies, combined with ample repose, in reducing the swellings, and in restoring soundness, and bracing and strengthening the relaxed and knuckling-over joints as well. It is not often that we are called to treat windgalls, and less frequent still is it that we feel ourselves justified in such undertakings ; and when we do set about to treat them, it is but with doubtful result, so far as their reduction is concerned, unless we employ remedies—such as strong irritants and blisters—that lay the horse up, and this is what is seldom permitted. Therefore, if required to do something towards lessening their volume while horses are still going on with their work, the best treatment for windgalls is some well-regulated course of pressure or friction, aided by discutient applications. A russiack bandage, three yards in length, and four inches in breadth, will, by being neatly and tightly rolled round the leg in such manner as to give the windgalls the principal pressure, wetted with simple water even, and better still if with some lotion possessing stimulant or discutient properties, in time bring about some good, particularly when there is any reason to suspect inflammatory action in or about the tumour ; though better treatment than this, in general, is well rubbing into the tumours iodine ointment of adequate strength, or else an application composed of equal

parts of the iodine and strong mercurial ointments. The sublimate ointment we mentioned before—consisting of 3j of finely powdered bi-chloride of mercury rubbed with 3j of hogs' lard—has likewise been highly commended as a remedy of this sort for windgalls. As has been, however, more than once repeated, windgalls of the fetlocks, in point of fact, of themselves under ordinary circumstances call for no treatment; and when something more than common happens, seeming to require our assistance, we must in our examination of the windgalls take care to inquire into any ailment or alteration with which they appear to have any direct or indirect connexion.

IMPORTATION OF FOREIGN CATTLE.

[Continued from vol. xxi. p. 679.]

By J. T. HODGSON, M.R.C.V.S., Finchley.

I LEFT off at the advertisement of meat for the navy; this saves the *bacon* of the contractor, who infringed his contract by the introduction into Ireland of American pork, and supplied it as genuine Irish. It will, no doubt, catch a few votes next session, as this preserved meat will keep till we are called in to determine what *kind of animal* is in tierce No. 5, ex good ship Cobden, Mr. Horsemonger, master, from Triest (Goritz). I shall go on with the story of the Yorkshire farmer.

He turned his horse's head and his own from the M.P.'s door, and rode home; he did not stop to take any ale—he thought of taking the temperance pledge; his man held the horse. Is there another sick, Robert? No, Sir; that is well. His supper was ready—he was not inclined to partake of it; he went to bed, not to rest. The veterinarians, the cows that *were gone*, disturbed him; at last, hope, that balm of human misery, came to his relief. His friend, the manufacturer, had mentioned his brother was going to Hambro';—that in Holstein he could buy a farm for the same sum he paid in rent. He slept. The next day he was half way across the German ocean.

I was sitting in Pace's cellar to see the captain with whom I was about to go to England. A pair of top boots were coming down the steps; I felt a jerk of the bench—it was electric; the few brokers who were sitting on it, had in an instant mentally anticipated how much per centage they might get out of the inhabitant of those top boots. The Newmarket cords and upper man

followed, and there stood a British tenant farmer—one like those described some years ago, by Nimrod, at dinner, when a plum pudding was placed before each. I heard his name. P——. I have never seen you, but your father lived in the North Riding, tenant of the Duke of Leeds! Yes; I am.—Well met. He told me his case. Return with me; I am not a practised writer, but a similar case happened here in 1847. The new tariff has got you into the difficulty. Never mind what the West Riding member says: he has received his retainer from another party for these supposed benefits of free trade. I am not doubting the policy of the measure under the circumstances of the times; I shall only endeavour professionally to shew the inconvenience in this particular instance of the present mode of importation of foreign cattle. The ultimate result will shew itself. Has it not already been felt? Free trade in cattle or any thing else does not occur in German states, and yet the farmer, in your case, receives compensation. Eighty head of cattle were destroyed at Eits, near Pinneberg, about eight years ago, for Lungensucht (pulmonary consumption). The farmer was also a distiller. The cows belonging to other farmers, that had been sent to his bull, were also destroyed, though these and others of the eighty were not at the time diseased. Two gentlemen from Copenhagen came there for the purpose of inspection, besides the district veterinary surgeon. I am not aware of their opinions; but the whole were destroyed, and buried with the skins on, and every thing belonging to the cattle was burned.

I have not been able to obtain for you the regulations, in print, under which these animals were destroyed, and there is no getting any thing from the Bureau without paying dearly for it; besides, they differ in different states. But, whatever they are, we have boasted of bridging the ocean. Now do justice to the British farmer, and make no boast of it; if not, do away with the bridge: it is, as I have shewn, a positive injury. Would any Member of either House like his tenant to come to him, and say his cattle were in the state I have described; or his sheep in the state described by Mr. Rawlings, of Bristol, in your Journal for April 1837?

“ One farmer at Radstock, in Somersetshire, said that, many years ago, in their neighbourhood, he knew a similar disease, and it proved very fatal.” I have been absent from England, and, when so, I do not see your Journal perhaps for many years, or I could point out other instances. What occurred on the Colswold hills in 1837, and at Putney Heath in 1839, will occur again. A gale of wind, and the hatches closed, between Harlingen, Rotterdam, and the Thames, or between Hambro’ and Hull, will effectually do it, if these cattle and sheep are allowed to run the gauntlet of this

Custom-house inspection. They are brought here for the ostensible purpose of feeding the people. Good! I will make no objection to this; only cut their throats directly they come. They will keep as well as the dead poultry, the reeffs and rees, teal and widgeon, that accompany them. They are not required to feed the people at "Alresford Fair, Hants." This part of the subject is quite extrinsic of the subject of free trade; the ultimate tendency of free trade to produce these diseases among our cattle and sheep spontaneously, by farmers endeavouring to make ends meet, with diminished profits, is another subject, which, as I have said, will ultimately shew itself when you, Mr. Editor, and I are no more. When cattle and sheep were imported by his majesty George III, many noblemen and gentlemen, for the purpose of improving the breed, did never dream it would come to this. They have thrown away their money. Mr. Bakewell has thrown away his talents. We veterinarians (persons of no sort of influence but on our patients) have laboured personally, and with our pens, to prevent that which the free trade mania now cares little or nothing about producing.

WANT OF KNOWLEDGE OF THE TREATMENT AND DISEASES OF CATTLE.

By CHAS. H. WADLOW, *M.R.C.V.S., Oxford.*

To the Editor of "The Veterinarian."

Dear Sir,—I HAVE very little time to spare for writing, and no wish to enter into controversy upon any subject connected with the treatment of cattle, although it is a subject to which I have always paid great attention, and, when I commenced practising my profession, I had a great desire to cultivate it; but I have taken up my pen to refute the reproach cast upon the veterinary surgeons as a body at the London Farmers' Club (*viz.* want of knowledge of the diseases and treatment of cattle), as reported in your VETERINARIAN of last month, where Mr. Ellman feared that the veterinary art had not reached that eminence which would justify the expectation of relief, and placed more confidence in the opinions of his shepherd than of a veterinary surgeon; and Mr. Hobbs quite agreed with Mr. Ellman in his remarks respecting veterinary assistance, and that persons engaged in the veterinary art had not paid so much attention to the diseases of cattle as of those of horses; and Mr. Shaw trusted that the time would arrive when that blot

upon the profession, in respect to their want of knowledge in the treatment of the diseases of sheep and cattle, would be removed.

It has for some time been a confirmed determination with the owners of horses to submit them to the opinion and care of a qualified veterinary surgeon in every case of infirmity or ill health; the more valuable the animal, the more eagerly is scientific aid sought for: they are not trusted to the grooms and coachmen employed upon the premises (although these are men, generally speaking, of much more acute observation and knowledge than herdsmen and shepherds). Why is this? Because valuable horses are generally the property of men of liberal minds and endowments, or of men who have become enlightened by continual intercourse with the world. These men, knowing that education, observation, and experience, have done much for themselves in their path in life, can fearlessly trust their valuable property to the veterinary surgeon; knowing that, after his years of study and attention to such subjects, he must be more competent to aid and relieve than the ignorant blacksmith and farrier, or empiric, formerly employed. Thus, being called in to treat all diseases in every state, we have had opportunities afforded us of practically arriving at the best methods of treating, arresting, and curing the diseases incidental to the animal.

Now, I would ask those farmers and cattle-owners who are raising this outcry of our ignorance, Are we regarded in this manner respecting their cattle? Are we applied to as readily? Are we consulted as openly? Are our opinions and directions as to treatment as strictly adhered to? No! when their cattle are attacked, they employ the cowleech, who generally administers some favourite nostrum, as applicable for that as for any other of the many diseases to which it is invariably applied; and thus the disease goes on, each day becoming more virulent and attacking other animals. Then, when the wisdom of the owner and the ingenuity of the cowleech have been exhausted, and the disease has become aggravated to its utmost extent, the unfortunate veterinary surgeon is called in, though, unless he can bring supernatural means to his aid, he can indeed do nothing; and then he is blamed for malpractice and want of knowledge.

I write this with a thorough knowledge of its truth. All my relations, both by consanguinity and marriage, are farmers—all more or less owners or breeders of cattle—all opulent—and, with a few exceptions, as illiberal as the rest of their class; and thus they have fared. In those homesteads where the veterinary surgeon has been a stranger, where farmers button up their pockets at his approach lest a moiety should be required from their purse towards providing the clean shirt and decent habiliments of the respectable pro-

fessional man;—there, when regarded as a disagreeable interloper, treated with only half confidence, with every obstruction thrown in his way from the ignorance of those about him;—there the malady makes its way unchecked. But among the few where the professional man is a frequent guest, considered as a friend, respected for his ability, and confidently resorted to for his assistance, there, they have feared no malady, and have suffered no loss.

Much praise is due to Messrs. Cherry, Turner, Field, Gabriel, and many other gentlemen, who have most indefatigably laboured in endeavouring to discover the cause and to plan some treatment for successfully combating that devastating malady, pleuro-pneumonia; but Mr. Cherry most truly says, they have looked too much at the means of cure, instead of the means of prevention. Every pupil who leaves the College, or has ever left it (having obtained his diploma), is as fully capable of treating the diseases of cattle, as of treating the many diseases incidental to the horse; an animal with the same atmosphere above and around him, all the early part of his life, subjected to as much variety of locality, to all kinds of work, and to every sort of accident; and yet all this is successfully overcome, because left to the man of science, aided by practical experience. But were the science and ability of all combined in one, it would be utterly useless, so long as every impediment to practically obtaining a knowledge of the disease is thrown in their way: they are met with suspicion, ignorance, and illiberality, by the men they would assist. No art or science can avail amidst such concomitants. Lectures anatomical, pathological, &c. may be given, subjects may be dissected, meetings may be attended, discussions may be held; but when the veterinary surgeon is as frequent a visitor in the cattle shed as in the stable, when the same opportunity is given him of acquiring *practical* knowledge of the diseases of cattle as of horses, when the farmers and cattle-owners feel that the man of science, if unable at the moment to render benefit, will conscientiously refrain from giving or doing any thing that might lead to danger, while the shepherds and cowleeches give they know not what, and know not why; and, lastly, when they are willing to remunerate intelligent professional men for the employment of their time and talent; then, and not till then, will cattle diseases, pleuro-pneumonia among them, be successfully combatted, and in time eradicated.

I am, dear Sir,

Your humble, obedient servant,

CHAS. H. WADLOW, V.S.

To W. Percivall, Esq.

Oxford, Monday, Dec. 11, 1848.

WINDGALL AND BOG-SPAVIN.

To the Editor of "The Veterinarian."

My dear Sir,—AS your paper in the last Number of THE VETERINARIAN "On Windgall" has drawn some remarks from one whose opinions on pathological disease I hold in high estimation, in which feeling, I am sure, you will join when I mention the name of the writer, Mr. Pritchard, of Wolverhampton, and as I have permission to make use of them, I do not think that I can do better than forward them to you. Perhaps at some future time Mr. Pritchard may favour us with a more lengthened statement on a disease but too frequently involved in obscurity.

I am, your's truly,

W. Percivall, Esq.

ARTHUR CHERRY.

"In the last VETERINARIAN, Mr. Percivall says, windgalls, and bog-spavin, and thorough-pins, are the same in cause and effect; but my experience tells me differently. Windgalls are, as he truly observes, distended bursæ by synovia, the product of work; and this is the true pathology of them, appear where they may, whether in the fetlocks, the hocks, or elsewhere. And abstinence from work, if of a sufficient time, particularly in a cool loose box, will remove them, if not entirely, to a very great degree. The undue volume of synovia becomes absorbed, and the sac reduced: and all this takes place without veterinary aid. But not so with bog-spavin and thorough-pin. This is a disease within the capsular ligament, always the result of a sprain, and, unlike windgalls, the development of which is always progressively slow, appears rapidly after the accident. Bog-spavin does not disappear with rest; the disease proceeds: exercise promotes the absorption of windgall, but not of bog-spavin. The bursal tumour in the site of bog-spavin must not be mistaken for the latter; it is a very different thing. Some few years past I called the attention of Mr. Morton, in a conversation I had with him, to a chemical change in the constituents of the synovia in bog-spavin and thorough-pin; in which that fluid first becomes highly charged with cartilage, then follows calcareous matter, and the whole tumour of the hock is converted into an ossific substance, of which I have a very large and excellent specimen. The first change in the synovia is in the increase of its albumen; then cartilage appears, most commonly in the form of cotton threads, from one to two inches in length, perfectly white, resembling a fine needle-like worm, floating in the

thick deep-coloured synovia. These threads increase in number and size; then comes the calcareous matter, and perfect ossification is effected in irregular spherical masses; and in one case, of which I made a particular note, I was surprised at the early period of the disease at which these threads of cartilage appeared, and in considerable numbers. Enough for the present purpose. I imagine I have said sufficient to shew you an important difference between windgall and bog-spavin.

“*A. Cherry, Esq.*”

“RICHARD PRITCHARD.”

[We thank Mr. Cherry for this communication. The article to which the excellent remarks of Mr. Pritchard allude is on “Windgalls”—as synonymous with bursal swellings—in *general*, without especial reference either to fetlock windgalls or to bog-spavin.—ED. VET.]

A LETTER TO THE EDITOR.

By ARTHUR CHERRY, *M.R.C.V.S.*

Sir,—IN perusing your Journal of this current month, I am surprised at the concluding sentence of a letter from Mr. W. Cumin. It is strange that the advocacy of a good and deserving class should have been tortured into so perverse a meaning as that of upholding such a character, either individually or collectively, as the one cited by Mr. Cumin: such a remark may be presumed by the writer to be a witticism, or it may be directed as a blow at what was intended for a far different object; and the man who cannot discriminate between the good and the worthless, or who will not take the trouble either to read attentively, or reflect on what he does read, is hardly worth the trouble of correction.

It may probably be, that I have not expressed myself perspicuously; but this I doubt, after the remarks that have been made to me by those whose knowledge and opinion I hold in respect. Perhaps also my opportunities may have been more extensive, and of longer duration than Mr. Cumin's: be this as it may, it does not require comment.

I have not in any way advocated the admission of any one whatsoever without the application of a test, whereby a certain fitness might be elicited. I have not hinted even at the means of applying such test, however I might feel disposed to freely admit other than those who have graduated at a veterinary school into the corporate body. I am not so ignorant of the provisions of the

Charter of Incorporation, as to advise, or even to suggest, any course that should not be in consonance with those provisions.

There are always two sides to a question ; and why look only at one ? For many years I knew the profession as one unrecognised, save by popular courtesy. I have been myself treated as only a *labourer*, and in the eyes of the law I was in my professional capacity no better : by courtesy indeed it was otherwise ; but how different it is to be recognised only by courtesy, and to claim a position as a right ! Yet such was our position but a few short years since ; and during the time that our profession was a nullity, how many men made it their study and their practice, called themselves veterinary surgeons, and with as much right as those who possessed a document yclept a "diploma." If long possession gives a right by prescription, by what rule of justice ought we to be guided in such a case ? Ought we attempt to deprive those who were or are worthy of consideration of what they might fairly claim as a prescriptive right ? If the legislature thought it meet not to extend the provisions of the Charter to those, it at the same time did not deprive of any existing right ; but it did provide for the future, and clearly defined who were, and by inference who were not, to be henceforward "veterinary surgeons." All who may lay claim or who assume to be veterinary surgeons after the act of recognition by the Crown are impostors, and ought to be exposed as such ; but it was never contemplated interference with those who were already in existence, and whose position, right or wrong, must end with the generation.

To those who were worthy I directed attention, and at the same time I also wished to draw *their* attention to the subject. Many are qualified to apply for an examination for a diploma, as Mr. Atcherly, of Bridgenorth, a practitioner of nearly thirty years' standing, did very recently ; and at this very time a gentleman of large practice and of some standing is about to do the same. To these I did address myself, and on these I commented ; but I never did nor ever will do ought to uphold, advocate, or countenance the admission of badly qualified or improper persons into the body corporate, and to such a class the instance furnished by Mr. Cumin indubitably belongs. My own experience in many different localities has brought me acquainted with many, very many, such characters ; but I never yet knew an instance in which they could be said to more than barely exist where there was a veterinary practitioner of skill, probity, and business habits. Where, as it too often happens, such is the case, there they do indeed abound ; but when the reverse exists, then their existence is but ephemeral. I will mention but one instance which occurred in a cathedral city which I well knew. A *ci-devant* groom thought proper to assume to be

a veterinary surgeon, and, as will every now and then happen, a few cases occurred in the system of "luck's all," which were successful; and for a time, who but he? Nothing was heard of but the number of horses he kept, and the wonders that he performed. During this time there was a practitioner steadily going on taking the cream. Mr. Quack sank lower and lower, and after a course of but a few years, I forget exactly how long, he was fain to flit to a distant town, there to pursue the same course, while the educated practitioner holds his own quietly and unobtrusively. If I were to enumerate the instances which, during a long practice, I have myself encountered, the list would be a long one. Such things never, as a tyro, gave me a moment's uneasiness, nor ought they to give any one who is conscious that he has paid that degree of attention to his art which will enable him to practise it, and will be resolute in carrying it out on strict principles of probity.

It is this knowledge which has led me to be so urgent for the proper instruction of the rising generation: it does not prevent me from feeling and shewing respect where it is due, but it does in joining in a silly cry against those who, from circumstances, may not have the same advantages, though they may be equally or even more worthy than myself. If any one has succeeded in obtaining a document miscalled a diploma without having paid the due degree of attention to the requisite course of study, he is worse by far than one who openly declares that he is a quack, or, what is the same thing, that he is in possession of certain valuable recipes—because the former is passing that off as sterling, while it is as worthless as a counterfeit. There is the still small voice of conscience, which, let a man try ever so much, can never be stifled; which will ever haunt him, if he attempt that for which he is not competent.

It is the delusion in which so many have started as to their fitness to practise a difficult art, which has done so much injury to the profession, and been the means of ruin to themselves. How many young men of fair average talent have failed! how many have at first been sought for and patronised, but after a year or two have found themselves deserted! Has it never occurred to the reflecting to account for this? Surely it has a cause: the public are not easily deceived for any length of time, especially in country districts, where all know more or less of each other's affairs; and when they find that the quack can *do* as much as the other, and at a greatly diminished money charge, need we wonder at the result? I, for one, do not.

If the door by which the profession was to be entered was rendered more difficult than it is at present, if the expenses attending

thereon were greatly increased, so far from diminishing the applicants, I am certain the reverse would prevail; and the more the estimation in which the public would hold them, because it would bring men of better education and of higher moral cultivation than the "cheap and nasty" system: it would keep out the idle, the profligate, who now resort too often to the veterinary profession as a *dernier* resort. Compare the results of the first period after the establishment of the Veterinary College, and the last since the granting of the Charter, with the middle period, and how strikingly this is shewn, when even a few short weeks' irregular attendance was considered sufficient for the study of the art. Where are all who have emanated from the schools armed with a document purporting to bear testimony to their fitness? Echo answers, Where. Nor need we wonder that the schools themselves were and are still thought lightly of, when such things were allowed to have existence.

I am, Mr. Editor, your's obediently,

ARTHUR CHERRY.

Dec. 5, 1848.

DIMINUTION OF AREAS OF THE OSSEOUS NASAL FOSSÆ FREQUENTLY THE CAUSE OF ROARING.

By JAMES TURNER, *M.R.C.V.S., Regent-street, London.*

Dear Mr. Editor,—I BEG leave to recall your attention, together with the profession generally, to a paper of mine published in THE VETERINARIAN as long back as the year 1837, March Number, under the heading "New Views regarding Roaring," wherein I flattered myself I had opened a new light into the nature of that irremediable and prevailing malady among horses in this country. The subject matter occupied an entire evening in debate of the Veterinary Medical Association within the walls of the Royal Veterinary College of London, numerous attended by practitioners of note, both from town and country, and I was also present to defend my paper.

It unfortunately happened that the late Mr. John Field (whose memory we all revere) summed up by unequivocally stating that the abnormal structure to which I alluded had little or nothing to do with the general cause of roaring—that it was merely a *solitary case*. This dictum from so high a quarter had a withering effect at the time upon my embryo discovery, and consequently very

much limited the sphere of its usefulness. Veterinary authors disregarded it; schools and lecturers have been apathetic, and have not as yet instituted special dissections among their students of this very critical region of morbid anatomy. But that which was a great fact in 1838 is no less a fact in 1848; and I have by my individual researches witnessed a series of confirmatory cases, and have accumulated a volume of circumstances bearing upon this deteriorating scourge, which too often, for the credit of our profession, consigns the counterpart of Eclipse himself to the shafts of the street cab. The following is one of my most recent cases, which you are at liberty to publish in the next *VETERINARIAN*, should you think it worth while:—

CASE.—A bay gelding, thorough bred, seven years old, of hunting substance, was purchased by an eminent barrister of Mr. Anderson, as a “roarer,” about the year 1840: he worked in this gentleman’s cabriolet, also occasionally in double harness, and finally in a light brougham, for six consecutive years, always shewing high working condition. While trotting in harness on the flat, at the rate of ten miles an hour, very little could be heard of his respiration; but upon ascending a moderate hill it was always necessary to slacken the pace: when riding in saddle, a brisk canter on level ground would at all times, and under all circumstances, instantly proclaim the existence of the malady by a roaring noise in his respiration.

His owner again consulted me in September last, 1848, when I was obliged to condemn the horse for incurable chronic lameness. He was stuck in my presence, avoiding the poll-axe to the head. The lungs, with the other contents of the chest, diaphragm, and abdominal viscera, were closely examined, and found to be sound, except that the liver was pale; the trachea and larynx were of the full caliber, and the larynx, with its muscles, presented the usual normal appearances. Upon removing the head from the neck, and detaching the lower jaw, the velum palati was dissected off; then upon resting the incisor teeth on the ground, and looking through the large foramen, it was at once apparent that there was not an equality of area or capacity for the passage of air on each side of the septum nasi.

By carefully sawing longitudinally and transversely, the nasal bones were cautiously detached without making a breach into the anterior turbinated bones, or in the least disturbing the position of the septum. This proceeding disclosed a permanent though partial stricture of the left nasal fossa, occasioned by dilatation of both the left turbinated bones, anterior and posterior, throughout their whole extent, not by angular abrupt projection, but by uniform increase of their dimensions; to which was superadded a considerable chronic thickening of the pituitary membrane, lining both chambers of the left air-passage of the face, accompanied by an adventitious

deposit or false membrane over the external surface of the two turbinated bones*.

The sieve-like cavities of these bones, although dilated, were empty, and perfectly free from pus.

Upon careful measurement of the bony compartments of the two nasal fossæ, healthy and diseased, as to the area for the passage of atmospheric air, the unsound side was permanently obstructed by a diminution of more than a third of its caliber throughout this important air-passage.

This horse was not troubled with a constant cough, yet when made to cough it was sonorous, characteristic of a "roarer."

The dissected head I have preserved.

THE CATHETER PASSABLE IN DOGS.

By EDWARD MAYHEW, *M.R.C.V.S.*

WHILE the diseases of the horse have been diligently investigated, and vast improvements have been made in the means employed for their relief, the dog has by veterinarians been generally neglected. The commonest practices of surgery have not been applied to that animal; but with regard to it, the assertions of individuals have been accepted as indications of the true limits of possibility. Thus, when a pupil, I was taught that no ingenuity could pass the catheter up the canine urethra. The meatus could be entered, but I was informed that the bone of the penis presented an obstacle such as could not be overcome. As to introducing the instrument into the bladder of the bitch, the idea of doing such a thing was never even hinted at, because, I must suppose, the appointed lecturer at the school I attended esteemed such a proceeding to be one of those delicate difficulties which wise men abstain from openly alluding to.

I had not been many months engaged in practice before I had reason to wish that the expedients employed to relieve our other patients were applicable to dogs, of which animals many were brought to me for treatment. These creatures suffer acutely from the retention of urine. During parturition, in the typhoid stage of distemper, and in paralysis, as well as in several other diseases accompanied with excessive prostration of the vital powers, the detention of the bladder often seriously aggravates the symptoms, and sometimes is the immediate cause of death. Aware of this circumstance, I dissected the parts, and found that in their construction they presented nothing which gave force to the prevalent

* *A hint to the comparative pathologist*:—I feel assured that analogous cases could be found in the post-mortem examinations of human beings, if diligently sought after. I have seen and conversed with many a lad who has been a *high-blower*, but otherwise in the enjoyment of perfect health.

opinion. I obtained some female catheters of various sizes, which are but slightly different in form from those commonly used by the human surgeon. Mine are simply a little more straight, and no other particulars essentially alike; at the same time I procured some gum elastic male catheters of small dimensions from number one to six. These I have repeatedly employed, and can with confidence assert that their use is not simply devoid of difficulty, but more easy and safe in their application than are the instruments of a like nature in our larger patients. Some small acquaintance with anatomy, and a little regard for the excitable nature of the brute, render their service free from every danger. No accident or evil consequence has resulted from my now established custom of resorting to the catheter for the alleviation of both dog and bitch. In the female, perhaps, the operation is most expeditiously performed, for in the male there is always encountered some temporary resistance just where the canal begins to take its course along the bone of the penis; the instrument therefore must be rather small. A number three will generally suit a lady's spaniel of moderate size, but the Newfoundland will require a number six made of twice the ordinary length of those employed in human practice. When the obstacle is met, the practitioner should pause until the spasmodic contraction excited in the part has subsided, and probably his patience may be taxed for ten minutes before this takes place. After that, no further resistance will be experienced, but the hand must guide the tube when it passes the perineum, where its passage can be readily felt. All force must be rejected; none is necessary, nor does the animal, after the first fear of restraint is overcome, ever resist.

With regard to the bitch, I always let the animal stand upon her legs, simply having an assistant to hold the head and engage the attention of the creature. The meatus lies about half an inch or two inches within the pelvis, the distance varying with the size of the dog. The line of the urethra is rather forward than downward, though, of course, in both directions. After having once or twice passed the instrument, it is surprising how very readily this conjectured impossibility is performed. I think so little of the difficulties, that I have no inclination to dilate upon the few precautions which are required to remove them. I may, however, here state, that, when grasping the penis of the dog, a handkerchief or a portion of tow will be required to render the hold secure; and the wire should, before it is introduced, be withdrawn, while the catheter ought to be moistened with olive oil to facilitate its passage, as the canal is not unfrequently devoid of mucus.

As to the necessity of occasionally employing the catheter, I have had such ample proof, that, did not analogy assure us of its

importance, I could quote many cases illustrative of the benefits it confers. In one dog, which ultimately recovered, I daily withdrew several ounces of fluid; and in another, of not more than eight pounds weight, I extracted no less a quantity than nine ounces at one time. This last case, which was brought to me for my opinion by a gentleman of high professional standing, can, if needful, be attested, and I can also appeal to the evidence of many persons who have witnessed me do that which, when the prejudice concerning its possibility is rejected, requires but little skill to accomplish.

Considering how long the catheter has been in general use, it is surprising that its application to any of our domesticated animals should be a novelty; but in none of the works which treat of canine pathology do I find it recommended, and in the London school I know its employment was by the teachers actually proscribed. How much agony might have been mitigated, how many lives might have been saved, if reason had been earlier exerted to ascertain the facts on which opinion was based, it is now useless to inquire. For the silence of an author we may find some excuse; but for the temerity of a teacher, who boldly issues his groundless assumptions as if they were knowledge founded on experience, and makes his office the medium for propagating error, there can be discovered nothing bearing even the likeness of palliation. The dog, however, though the most attached of animals, and that one which comes nearest to the sympathies of man, is generally neglected. Its tortures are made the playthings of ignorance, and the vaguest hypothesis or the most dreamy surmise seems to be deemed ample warrant for its pretended cure. The medicines given for its alleviation are mostly inoperative or dangerous; and I know not whether its life is not more secure when the power of nature is singly depended upon, than when, even with those who are presumed to be best informed, its anxious master entrusts its restoration.

As no one appears to pursue this branch of our science, I shall hereafter presume to offer to your notice a few examples of the gross extent to which the action of the most ordinary restoratives has been hitherto mistaken in the instance of the dog. Many of the doses now customarily exhibited are enormous, others are so low as to be wholly without effect; and when, added to this, several medicines turn out to have on the animal an operation the very opposite of that which they are given to produce, it is no longer a matter for surprise that the treatment of canine diseases is not popular with our profession, there being but very few who will undertake to administer to them.

I have the honour to be, &c.

Foreign Extracts.

WE have received the French and German veterinary journals up to October.

Report of the Committee appointed to inquire into the Teaching and Practice of Veterinary Medicine in France to the Citizen Minister of Agriculture and Commerce.

Citizen Minister,—One of your predecessors in the agricultural department having appointed a special committee for the purpose of examining into the state of legislation affecting the teaching and practice of the veterinary art, and of proposing such modifications therein as shall seem fitting;

This Committee sat the 4th April, presided over by M. Renault, director of the Alfort School, the vice-president being M. Bouilland, dean of the faculty of Paris.

To divide the labour two sub-committees were appointed, and two distinct questions submitted for their consideration, the results of which they have now the honour of laying before you.

Report of the Sub-Committee appointed to examine into the Teaching of Veterinary Medicine in France.

HISTORY OF VETERINARY SCIENCE.

Veterinary medicine, regarded as a science and an art, dates no farther back, properly speaking, than the conclusion of the last century.

The *savans* of antiquity, in such of their writings as have been handed down to us, have made full mention, it is true, of some of the maladies to which beasts are obnoxious, and of the means they deemed proper to combat them. The poets likewise have inspired their verses with accounts of fatal epizootics which, in their time, desolated agriculture. The arts of breeding, rearing, and feeding domestic animals have also found interpreters among them. But these early outlines of veterinary science become effaced and obliterated in the disturbances and under the obscurity of the middle age, and for a long series of years no vestiges even of them are met with.

Veterinary science shared the fate of the husbandman's art, which became, in these times of profound ignorance, the hinder-

most of the arts, as those who practised it became the most debased and wretched of men. Thus, what prejudices, errors, blind and superstitious faith, absurd and insensate practices, have not succeeding ages heaped upon our science? How could it be otherwise?

Throughout the whole of the middle age, down to the end of the 17th century, the sole depository of veterinary science, which had not passed unenlightened under the pens of ancient authors, was no more than an ignorant clown, having no traditions save those of a blind routine, and no inspirations save those arising from his own instinct or the instinct of the brutes with which, in his miserable life, he found himself associated. This was the shepherd, the neat-herd, or the blacksmith, or else that species of witch (*VATES de bas étage*), the depraved and debased successor of the priests of the oracles, and, like them, pretending to derive all his science from intimate communication with the powers of darkness, whose confidant and interpreter he represented himself to be.

In the hands of adepts like these, what could animal medicine amount to, but to an incongruous and monstrous jumble of errors, such as the human mind might be expected to bring forth, plunged as it was into the darkest ignorance, without a light to direct it, in the presence of some of the most difficult problems of nature, of which, constituted as our intellect is, the necessity of solution is constantly recurring. The few books which the preceding age has left us, even those that were written during the most brilliant epochs of the emancipation of the human mind in the 17th and 18th centuries, give proofs of the impuissance and sterility of every effort directed to this end, at a time when man was without method in experiment, and that he set about the interpretation of the phenomena of nature in accordance with some preconceived ideas of his own.

These books, in fact, barring some pages upon which the light of observation has shone, and has dissipated the darkness from, are but a mass of error and false doctrine repulsive to the reader, were it not that he feels that their defects are less ascribable to the genius of the writers than to the fallacious methods they conceived themselves bound by. Thus, in the middle even of the eighteenth century, a science so important and prolific, that it comprised within its domain the organization of animals subservient to domestication, no longer existed. It was no more than an intelligent sort of quackery, regulated by places and circumstances.

The invention and constitution of veterinary science form one of the glories of France in the eighteenth century.

Foundation of the first Veterinary School in 1762.

In France it was, in the year 1762, that was founded, under the ordinance of Bourgelat, the first school specially destined to the dissemination of the principles of veterinary science and art.

This event, considerable as is its importance, remains all but unnoticed by historians; they register the date of it without commentary. Nevertheless, it deserves a high place in the annals of our country, seeing what a deep and durable civilizing influence it has exercised over the minds of the agricultural classes.

At the time when the finance minister, Bertin, obtained from Louis XV the edict to found a veterinary school in France, our country people were living in the deepest ignorance. The bright lights spread abroad by the encyclopedists had but yet enlightened the heads of French society; the lower members remained impenetrable.

Without the means of acquiring the merest elements of veterinary knowledge, our simple farmers had preserved in all their purity the erroneous traditions of former ages.

The slaves of a gross fatalism, they saw in the disorders of their cattle nought but a scourge inflicted through the anger of some hidden powers which their hallucinated imagination represented to them as ever active in doing them harm; and, as a consequence of such singular doctrines, to conjurations and exorcisms, and expiations of all kinds, it was that they had recourse to arrest the progress of the evil which spread among them desolation and ruin.

Such was the state of knowledge in most parts of the country at the time when veterinary schools were instituted.

Their first care was to summon around them, and receive within their sanctuary, the sons of blacksmiths, who by right of inheritance possessed the privilege of preserving and putting into practice the traditions of the fanciful therapeutics of their fathers.

Initiated into reasoning, into sound doctrines and intelligent chirurgical practice, these young men, metamorphosed under the study of science, all elementary as it yet was, spread themselves over the country; as ardent to combat and dissipate error, as they would have been to have propagated it had they remained in their native ignorance.

The benefits resulting from these new missionaries were not tardy in coming to light. Armed with a right method of observation, they were not long in discerning, in the midst of crowds of hurtful influences, operations on the animal orgasm, though ignorant of the simplest laws of hygiene, those whose preponderating action gave rise to epizootic and contagious diseases; until one by one

these diseases, attacked in their generating sources, became restricted in their ravages.

The annals of time chronicle with a sort of wonderment the successes achieved over the entire surface of the earth by pupils sent forth from our schools ; and soon did their reputation run so high, that they were found inadequate to the demand made on them, insomuch, indeed, that in order to supply the wants of the localities, so importunate for the benefits conferred by the *new science*, the schools were forced to withdraw some of their young adepts from their studies, in order to disperse them over the country before they had received complete initiation.

In this way, and in a few years, became developed, through a happy experiment, the practicability of the scheme conceived by Bourgelat.

First Organization of Veterinary Schools.

While the first pupils sent out from the schools were actively employed in propagating the principles they had therein imbibed, the schools, on their part, laboured with a perseverance equal to the obstacles they had to surmount to establish veterinary science upon a solid and permanent basis. It was a difficult work, requiring for its accomplishment nothing less than the genius of their founder.

That we may have a conception of the difficulties besetting this undertaking, we must return to the period when Bourgelat first attempted to put his scheme into execution. At that time almost every thing was to be created. The anatomy of domestic animals, barring that of the horse, was yet unknown.

Their physiology had no existence.

The history of the diseases of horses, such as were the traditions of it handed down by the farriers of the by-gone age, amounted to no more than a vast chaos, in which the few truisms observation had elicited became eclipsed by the innumerable errors with which they were intermingled.

The writings of those celebrated hippiatrists, the two Lafosses, contemporaries of Bourgelat, had but commenced to dissipate this chaos.

The pathology of other animals had not even been sketched.

The materia medica was but an incongruous jumble of the most unaccountable formulæ, in which substances the most dissimilar and the most opposite in their properties found themselves associated under no other laws than the caprice or the beliefs of their inventors.

On the *modus operandi* of such medicaments there existed but hypotheses or dreams.

Lastly, the art of preserving and perfectionating the breed was, as concerned most of the species, destitute of any rules based upon *experimentation raisonnée*. Here, as in every other department of the management of domestic animals, traditional practices of more or less intelligence were the only guides; upon no part, as yet, had the lights of experimental science beamed.

It was in the face of difficulties such vast ignorance set up that the founder of veterinary schools had to act in instituting courses of instruction.

These difficulties, however, failed to arrest him; confident as he was, and had a right to be, in the prospects of the work he had in hand, and assured that a scientific method of experimentation would speedily multiply and on every side enlarge it.

He made the basis of his instruction *zootomy* or the anatomy of animals in general; comprising *osteology*, *myology*, *splanchnology*, *angciology*, *neurology*, and *adenology*.

This principal department received, from the commencement, very great elucidation; and soon a museum with a rich anatomical collection received preparations made by the pupils, shewing the skill they had already acquired in the art of making anatomical preparations.

A second course of instruction was devoted to the *science of the exterior of domestic animals*.

This highly complex and extensive branch of instruction embraced the study of external form, and the appreciation of the aptitudes of animals for different purposes, according to their conformation, their age, their sex, their breed, their origin. It treated also of the laws of *hygiène*, and of the higher departments of physiology, such as the laws of the coupling of animals of the same species as well as of different species. This constituted a vast frame-work, in which different subjects had been ranged according to their actual affinities, until such time as the progress of art had assigned to each sufficient development to enable it to admit of being separated and formed into a distinct branch of education.

A fourth course was dedicated to botany, *materia medica*, and the compounding of medicine.

A fifth course to clinical study.

Chirurgery, bandaging, and the theory and practice of shoeing, constituted the two final courses.

And, lastly, the practical study of disease in the different localities, whither the pupils were sent on mission, formed a special subject of study.

Such constituted the first outline of study at the veterinary schools.

[To be continued.]

IDIOPATHIC TETANUS CURED BY INHALATIONS OF ETHER.

AN entire horse, the property of M. Mazin, ordinarily in hard labour upon the Lyons railway, was found to lag at work, and to experience some difficulty in turning. The carter driving him, judging he was unwell, took him back to his stable, and called in a veterinary surgeon, who bled him largely.

HIS STATE AT THE TIME OF ADMISSION to the (Alfort) College, on the 26th March, 1848, was—head erect and protruded; nostrils dilated; eyes fixed; pupils dilated; ears fixed upright; tension, stiffness, and hardness of the muscles.

The animal moves all of a piece; at the smallest excitement the cartilago nictitans is projected over almost the entire globe of the eye; and there are partial sweats upon the head, flanks, and limbs. The respiration is accelerated, the pulse small and slow; the pulsations of the heart little perceptible. The mouth is hot, the saliva abundant and inspissated. He refuses all nutriment, solid and liquid. There is permanent contraction of the muscles of the jaws, ears, neck, fore limbs, and thorax—in a word, of the entire anterior half of the body; the muscles of the posterior regions being less spasmodically affected.

DIAGNOSTIC.—Idiopathic tetanus.

PROGNOSTIC.—Exceeding grave.

PRESCRIPTION.—Inhalations of ether, the dose being 11 ounces (4 *deci-litres*). The animal was subjected to the influence of ethereal vapour for 45 minutes by means of an apparatus in use at the school. On the first impression he hastily backed; there was a degree of agitation manifest, which a few minutes after was succeeded by a calm. Although 45 minutes were more than sufficient to produce complete anaesthesia, the animal stood proof against it, and remained standing, notwithstanding the inhalation still continued: his body was covered with a profuse sweat; the apparatus is withdrawn; the animal is well clothed up, and turned loose into a well-closed box.

27th.—The condition of the patient is aggravated; the tetanic spasm is spreading over the posterior muscles.

TREATMENT.—In the course of the day the animal was subjected five times to the influence of the vapours of ether, each experiment continuing 30 minutes, yet there is no producing stupefaction. On the contrary, a general excitation is aroused, manifested by stamping and neighing. Upwards of $3\frac{1}{2}$ pints (2 *litres*) of ether* were used in the course of the day. In the evening no amelioration was observable. He refused every kind of solid food.

* We have since discovered that the ether was not rectified.

28th.—On visiting him this morning, we thought him a shade better. The salivation is decreased, the masseters are less contracted, the muscles in general are less tense; the appetite is returned; he has eaten with enjoyment a handful of hay*.

The ether apparatus is once more applied to the nostrils, containing again $11\frac{1}{4}$ ounces (4 *decilitres*) of ether. At the expiration of 35 minutes, although still standing upon his trembling limbs, the horse might be said to be sent to sleep. The muscles, those even of the neck and jaws, are lax and soft; the head is heavy, and is leant upon the manger; the superior lid has fallen over the globe of the eye; lifted up by the finger and thumb, it falls down immediately, so great is the flaccidity of the muscular fibre; the patient wakes up at the noise of water shaken up in a pail, and eagerly drinks of it. Half an hour after he eats, with appetite, a little hay put before him.

At ten o'clock a fresh etherization is practised, the quantity of ether being the same. This time sensible effect is produced; several times he reels about during the operation. As soon as the apparatus is removed, he empties a pailful of water gruel. The appetite returns; he eats his litter.

At four o'clock the patient lay down and rested for half an hour. The muscular tension is considerably diminished.

29th.—The amelioration has not been maintained. The muscular contraction has returned almost to its former extent; nevertheless, the appetite continues. Demi-ration is ordered.

Inhalations of ether thrice in the course of the day, using each time $11\frac{1}{4}$ ounces of ether. Abundant sweatings are produced, together with relaxation of the muscular tension, which, however, lasts for no longer than half an hour after the removal of the inhaling apparatus. The patient, however, is kept well clothed, in order to prolong the effects of the transpiration.

30th.—To-day he is more irritable, and tries to strike whenever anybody approaches him.

Three pints of ether have been respired in the course of three inhalations made at various times in the day. At each inhalation the skin has become bedewed with sweat.

* If we lay stress on the changes which the sense of hunger undergoes in the tetanic animal, it is because this symptom seems to us of importance enough to direct the prognostic of the practitioner. In fact, as a general position, it may be laid down that the animal who refuses, unless it be from physical obstacle occasioned by the stiffness of the muscles of the jaws, to take solid food, is in serious case; while we may almost premise recovery, if, in the course of the disease, the patient searches about for food, and takes hay or oats or any other aliment into his mouth. And this is one example more to shew the great influence the digestive functions exercise over the organism of the sick subject.

31st.—His amelioration has been maintained. He ate his demiration with appetite.

Same number of inhalations as yesterday, with the same quantity of ether. The same phenomena followed.

April 1st.—Continues to improve. Appetite very good; full ration; slight constipation. Six ounces and a half of sulphate of soda in his drink.

Two inhalations of ether during the day. Dose the same as usual.

2d.—Going on satisfactorily. The muscular relaxation nearly complete; to discontinue his inhalations. Six ounces and a half of sulphate of soda.

3d.—Same as yesterday. Same remedies.

4th.—He is become extremely irritable, so much so one can scarcely approach him. The nictitating body is frequently thrown over the eye. The muscles of the fore quarters are as rigid almost as at first; those of the thighs and tail being only slightly more tense than usual. In a word, a relapse has evidently taken place, and the appetite has failed under it.

PRESCRIPTIONS.—To return to the ether inhalations, three times a-day, with the same dose of ether as before. After the second, about noon, slight amelioration was perceptible; the muscles of the thigh and tail have recovered their normal condition, and the appetite is returned.

5th.—Amelioration maintained. Two etherizations. Walking exercise for half an hour.

From the 5th to the 9th inclusive.—Amendment from day to day. Now but one etherization in the course of the twenty-four hours. At present there is no more than slight tension, scarcely perceptible, of the muscles first affected.

10th. — Discontinue etherization. Appetite very good. At exercise the animal is very lively and active.

11th.—Amendment continues; notwithstanding some stiffness about the jaw remains, the muscles appearing as if they had lost some of their wonted contractility: however, the appetite holds good. One etherization during the day.

12th, 13th, and 14th.—One inhalation on each day, together with a protracted walking exercise.

15th.—The muscular tension is hardly perceptible; at exercise his walk is free, and his gait as usual, and his appetite is excellent:—in a word, every thing betokens a prompt return to health. The use of ether to be discontinued altogether.

16th and 17th.—Protracted exercises, so much so, indeed, that on the 18th the animal is considered fit to resume his work; and is sent home to his owner, with a recommendation that, for the first few days, he be not put to any thing but light work:

Some days after his discharge from the institution, a visit was made to him. He retained no trace whatever of his complaint. At the present time—25th July—he is performing his regular work. To resume : It is evident, in this instance, that the disease completely yielded to etherization, unassisted by any other medical aid, continued for nearly twenty days ; though there was consumed the enormous quantity of 26·4 pints (*quinze litres*).

Nevertheless, with an apparatus well adjusted round the muzzle, and with ether of good quality, the treatment of tetanus would not, of necessity, call for so outrageous a quantity.

A STRANGE CASE CONSEQUENT ON NICKING.

By REICHERT, V.S., *Winzig*.

[Translated by W. ERNES, M.R.C.V.S.]

MAJOR L— required Herr Reichert to perform the operation of nicking on one of his horses, as it did not carry the tail high enough to please him. Accordingly, on the 21st of March, 1846, the operation was performed in the usual way. Three incisions were made on each side, with very little loss of blood. After the operation, the tail was suspended by strings running through small pulleys, and the stall so arranged as to prevent the horse from rubbing the parts on either side. At the end of twelve hours the bandage was removed. The wounds had a good appearance, and every thing seemed to be going on favourably. The next day the parts were fomented with warm water, and some dry tow was applied to the wounds. The horse was lively, and ate his rations with good appetite. On the fourth day after the operation, the supuration of the slough was established, and the swelling was moderate. The fomentations were continued daily, and the tail elevated somewhat higher. This was continued until the eighth day after the operation, when a peculiar twitching was observed ; and if suddenly approached, the horse would draw himself up, and bring his tail between his legs as close as the weights would permit him. These symptoms induced M. Reichert to make a careful examination of the parts, when he found that the middle wound, which unfortunately corresponded to a vertebral articulation, had a very untoward appearance. The articular ligaments, he observed, were torn asunder, thereby exposing the surface of the articulation.

It was evident from this that the healing could only take place either by the union of the ligaments or through ankylosis of the articulation. The latter was the most probable; and to favour it the ligaments were incised and irritated; and the tail brought into a more horizontal position. But no progress was made in the healing, and the nervous twitchings greatly increased.

Four weeks were in this way passed in trouble and anxiety. The first and third incisions were completely closed and healed, but the middle one now had assumed a fistulous aspect. And the nervous twitching, through fear, of the animal when approached was so great, that the perspiration poured off from it. This led to a supposition that matter was forming in some part which might be pressing against some of the caudal nerves, as it was not likely that the inflammation of the bone, or even the surface of the articulation, could be the cause of such intense sufferings. Accordingly, the wound was laid open in every direction; but no matter was found in any part. The whole was freely cauterized with the actual cautery; but for this it was found necessary to have the horse cast, as it was difficult enough to approach him at best.

The tail now began to swell enormously; the swelling extended upwards to the croup; the animal, from being restless, became furious with pain; he was constantly pawing and stamping with both his hind and fore legs; he blew, snorted, and was constantly anxiously turning his head towards the seat of his intense pain. The probability was that the case would terminate in gangrene of the parts, since the skin of the tail was very tense and shining, and there appeared something like vesicles in some places. All approach to the animal in this state of intense suffering was next to impossible, so that no careful examination could be attempted. The narcotic fomentations which had been applied hitherto were now changed to aromatics, with the addition of ammonia and spirits of wine; the parts were also deeply scarified. But it was all in vain: the animal became more and more furious; he would neither eat nor drink, and was constantly covered with a white lather, from a profuse perspiration produced by the intense pain and maddening excitation. This state lasted fourteen days without the least change. The Major now made up his mind to have the horse destroyed, though it was proposed to him to amputate the whole of the tail as a dernier resource. The mode of destruction was left to M. Reichert, who, for some reason or other, though he had destroyed horses by various means, such as the introduction of atmospheric air in the jugular vein, hydrocyanic acid internally, and divers other means, decided on employing arsenic. From the time of the operation to the day fixed for his destruction, ten

weeks and two days had elapsed. On the 1st of June, 1846, at 10 P. M., a ball containing one ounce of arsenic made up with marshmallow powder was administered by M. Reichert himself, and he expected that death would follow in the space of twenty-four hours. Such, however, proved not the case. In the first four or five hours after the administration of the poison nothing particular was observed. The animal continued as restless as before, but after that time he experienced suddenly short intervals of quietude, and would frequently look round at his flanks, and point his ears, as if listening or watching. These symptoms occurred four or five times in an hour, and lasted each time from two to three minutes.

About ten in the morning, twelve hours after the administration of the poison, the animal began to paw, and lay down twice; and the last time he lay quiet until twelve o'clock, when he suddenly jumped up, and neighed. Some water was held before him, and he drank nearly a pailful of it. While down his respiration was increased; his pulse, too, beat more per minute, and the pupils of his eyes were more expanded. This was all that was observed until four o'clock P. M., when the old symptoms of restlessness and intense suffering returned, and in less than an hour his body was again covered with profuse perspiration. The owner on this lost all patience, and insisted that another dose of arsenic should be given forthwith. Mons. R. decided on doubling the quantity, and to administer two ounces at once; but he could only obtain an ounce and a half, that being all that could be procured in the place. Not to be disappointed, however, he added half an ounce of corrosive sublimate. This was again administered by Mons. R. himself at 10 P. M., exactly twenty-four hours after the administration of the first dose. It is also worthy of notice, that in the last twenty-four hours the horse had had no food of any kind, excepting a pailful of water. Six hours after the administration of this second dose, the restlessness of the animal somewhat abated; the pupils were dilated, and the animal seemed to stare more; it, however, pawed very much, but at times stood quite still, as if in the act of listening: it looked at its flanks, and an abundant flow of saliva was observed at the mouth. Since Mons. R. had given the ball himself, he was quite sure that no part had remained in the mouth, therefore the discharge of saliva could not be attributed to this. The pulse was increased from eleven to twelve per minute, and the respiration became very much hurried and irregular. This state lasted without any visible change until 8 A. M., at which time violent purging set in, which continued for twenty-four hours, during which time the animal remained quite

quiet. But he evinced much thirst, drank freely, and refused all food. In vain was the death of the patient expected. He seemed to mock it. The following morning, June 4th, all the symptoms produced by the poison had disappeared; but the animal was very weak, and staggered as though injured in the spine; yet to the great surprise of all, his restlessness and pain did not return as before. On the contrary, having been provided with a good litter, he lay down, and lay for several hours as if dead. After he got up he would from time to time look at his flanks, but remained perfectly quiet. He drank a pailful of gruel, and ate a small ration of bruised oats with chaff. The swelling of the tail had now somewhat subsided.

The owner, astonished at this extraordinary case, decided that no further attempts should be made to destroy the patient, but that every thing should be done to save him, if possible, and consequently left all to Mons. R. The fomentations were resumed, and a sort of apparatus (which it is useless here to describe) was applied to support the tail. To make the narrative short, the swelling was daily becoming reduced; the horse remained perfectly quiet; the wound became smaller; anchylosis of the vertebral articulation had taken place; only a small ulcer the size of a silver grosschen (a sixpence) remained, which it became necessary to cauterize, after which it soon closed up, and nothing was to be seen but a rather large cicatrix. The whole treatment of this extraordinary case lasted fifteen weeks and a half. The horse carried his tail well in spite of all, and the hairs which had become entirely lost were restored; and he was sold, as a lady's horse, for a large sum.

It is extraordinary that the poison, consisting, as it did, of an ounce and a half of arsenic, and half an ounce of corrosive sublimate, should, with other circumstances, have rather contributed to cure than to cause death, for which purpose it was given. It also shews how large a dose of deadly poison, in a certain state of nervous irritation, may be taken into the stomach with impunity; and how differently therapeutic agents act on the system in states of health and disease.

Magazin für die Gesammte Thierheilkunde Berlin.

Home Extracts.

ON THE FORMATION OF PEARLS IN THE URINARY BLADDER OF A BULLOCK.

By ALFRED S. TAYLOR, *F.R.S., Lecturer on Chemistry, &c. in
Guy's Hospital.*

I LATELY received from Mr. Image, of Bury St. Edmunds, several concretions which had been taken from the urinary bladder of a bullock. They were perfectly spherical, and varied in diameter from about the sixteenth to the eighth of an inch. They had a light yellowish colour, and some of them were strongly iridescent with a distinct pearly lustre. The largest, which was about the eighth of an inch in diameter, weighed only 0·7 grain, but it was bulky compared with its weight. The mean specific gravity of four of the calculi was found to be 2. The surface had no appearance of roughness, or of a crystalline character: it was smooth and shining; and, from the examination of a fractured portion, it was found that the calculus was made up of very thin concentric laminæ, having the same pearly iridescent lustre. It was so hard as to require trituration in an agate-mortar, in order to reduce it to a fine powder. The first effect of pulverizing the calculus was to separate it into fine scales, having a strong nacreous lustre, and of a light golden yellow colour. There was no nucleus.

A portion of the fine powder, which was of a brownish white colour, when heated on platina gave out the smell of burning animal matter, and a slight carbonaceous residue was left. When this was burnt off, a white alkaline ash was obtained, which was proved to be lime. Another portion of the powdered calculus was entirely dissolved by all acids with effervescence, and the solution was found to consist of a salt of lime, without any admixture of magnesia or phosphoric acid. There was no uric acid present. Hence the concretion was proved to be carbonate of lime arranged in spherical layers, and intermixed with a small portion of animal matter.

Mr. Image informs me that no less than 150 of these calculi were taken from the bladder of the bullock.

Urinary concretions of carbonate of lime are very unusual in the human subject; they are, however, frequently met with in a rough and amorphous state in herbivorous animals. Dr. Bird is, so far as I can ascertain, the only writer who has pointed out the

strong resemblance to pearls which these concretions occasionally possess. This singular fact is not noticed by Scharling, Vogel, or L'Heritier, nor can I find any description of them in the last edition of Dr. Prout's work on Renal Diseases. Dr. Bird appears to have met with them of very small size compared with those examined in the present case, since he speaks of their appearance under the microscope. He says of them, "These beautiful little bodies present a remarkable resemblance to pearls, the well-known concretions of the pearl-oyster. Indeed, they may almost be regarded as urinary pearls."

I have since procured some of the oyster-pearls rejected by jewellers in consequence of their dark colour, and find them to be, in physical structure and chemical composition, identical with those taken from the bladder of the bullock. There is nothing surprising in this analogy, when it is considered that the oyster is partly composed of mucus similar to that of the mucous lining of the urinary bladder, and that the base, lime, is present in sea-water as well as in urine. Under some morbid condition of the system, the lime meets with carbonic acid; and, when the deposit takes place very slowly and uniformly around a centre, a sphere of carbonate of lime, having a pearly lustre, may be thus formed in either case. Pearl consists of concentric layers of carbonate of lime interstratified with animal matter. When this is abundant, and of a dark colour, the pearl is rejected as unfit for ornamental purposes. Dr. Ure states that the oyster-pearl is formed under a disease caused by the introduction of foreign bodies within the shells. In making a careful examination of an oyster-pearl, I have found no foreign body: the whole consisted of carbonate of lime, the internal portion being of a brownish colour, and amorphous, while the external portion was composed of thin concentric layers having the usual pearly lustre.—*Med. Gaz.*

[Some appear to think that pearls are always produced by or from the internal surface of the shell, and it is stated that their formation may be promoted by mechanical irritation of that surface; but this must be a mistake, for the shell once formed is lifeless and incapable of growth or secretion. The pearls are formed in, on, or from, the tegumentary membrane of the animal. We have more than once seen them embedded in the soft parts in the oyster, beneath or in its cutaneous or mucous covering, visible and projecting from the surface.—*Ed. Dub. Med. Press.*]

THE MARCH OF ENGLISH CHEMISTRY.

WE are satisfied less with the state than with the prospects of chemistry. British chemists of late have done and are doing little; yet by them—near them—perhaps through them—the elements of much future doing are being eliminated and organized. The good times of chemistry, like those of politics in the idea of some people, are not come, but “coming.” Medicine, manufactures, agriculture, many arts, and most sciences, are lending the work powerful, if not noisy, and efficient, if not connected, agencies: like the Popish army trained underground in the days of Titus Oates, unnumbered troops of chemists are everywhere preparing, or in preparation, for us (like them, too, many of them without their own knowledge), in workshops and hills, in schools and farm-houses, in pharmacies and mechanics’ institutes—the mute Miltons and inglorious Hampdens of a science which, through their unheeded labours, will one day break through the haze like a sun, pouring advantage over all. Literature was not more the passion of the last generation, nor are mechanics and engineering of the present, than will be chemistry of the next. With no pretension, it will discover that philosopher’s stone which alchemy failed to do with much; for the source of increased wealth in modern times—physical agencies at once cheapened and augmented, labour encouraged and energized, power made available to its last fraction—must be discovered here or nowhere. When chemistry shall do by wholesale and in public view what she now does in patentee-stealth and by retail, then, and not till then, will the mercantile people of England begin duly to appraise her importance, and give her the benefit of that torrent passion which, intermittingly visiting us, is spent in turns on crooked politics and direct roads, war with continental neighbours and humanity, with tropical strangers, machine labour at home and emigration in the colonies!

Much as Liebig has been ill-treated in England—by partisan friends worse even than by jealous foes—it must be confessed that we shall owe to him and his school much of chemistry’s coming development. Great Britain, like Germany, is beginning to be dotted by chemical luminaries sent out from his German propaganda; men ardent as martyrs in the cause, and believing in their science with the fanaticism of faith and practice that belongs to a new revelation. Edinburgh has the indefatigable and zealous Gregory, who has already published as many chemical books as his master has made chemical discoveries. From Arthur’s Seat he scatters down the seeds of Giessen chemistry over the whole

drizzled and puzzled land of Scotia, with the hopeful certitude that, once penetrating the cerebral depths of his countrymen, they will be as difficult of eradication as certainly they are of planting. Playfair, who has done good service at Manchester, is not wholly idle at "The Economic." Though somewhat fallen off from his first fervour, and become, perhaps, the least Liebigian and self-denying of the disciples of Giessen—such is the influence of government touch!—there is yet in him that which gives both experience and hope of good service. Here in London, at the College of Chemistry, Dr. Hoffman uprears himself as a third goodly column of the Giessen temple; but of such massive yet graceful proportions as to be not unworthy of standing isolated, and yet winning a due meed of attention and admiration. Then follows, with others of less note, his and our highly esteemed friend, Hoffman's professional colleague in college labours, Dr. Sheridan Muspratt, one of the ripest and most distinguished scholars from the Giessen school, who proposes, we are glad to hear, to dedicate his practical genius and rare advantages to Liverpool, to do for that modernized concentration of Venice and Florence, and with, perhaps, more zeal, what Playfair and Gregory have done for Edinburgh and Manchester. Giessen and Liebig may well be proud of having furnished England with four such apostles, and we—the debtors—may be the less chary in an acknowledgment to be warranted by results so certain and so important as those which, in necessary causation, must attend the labours of those eminent professors. May we and science owe to each a Giessen in England.

Pharmaceut. Times.

REMARKABLE CONSTITUENTS FOUND IN THE INTESTINE OF A SHEEP, AND IN A PORTION OF THE CONTENTS TAKEN FROM SEVERAL OTHERS SUSPECTED OF BEING POISONED.

By H. OSBORN, Southampton.

LAST January, Mr. Pinkey, of Berwick St. James, lost 195 sheep within fourteen days, which induced him to suspect they had been poisoned.

Mr. Spooner, veterinary surgeon, of this town, who was consulted by the owner, suspecting the presence of some peculiar irritant poison, requested me to analyze a portion of the intestines and contents.

I first examined some of the intestine in the usual way for

arsenic, but none could be discovered. Another portion was boiled in distilled water, and sulphuretted hydrogen passed through the filtered liquid, which produced no change of colour on precipitation; but on adding ammonia, a copious precipitate of a whitish-black colour took place. A second portion of the filtered liquid gave a blue precipitate with the ferrocyanide of potassium. The precipitate by sulphuretted hydrogen and ammonia was collected on a filter, well washed with water, dried, and treated with nitric acid, diluted with distilled water, and again filtered. On adding ammonia a copious precipitate was obtained, which resembled phosphate of lime coloured with a little iron. The precipitate was well washed with water and dissolved in acetic acid, which, upon further examination, proved to be phosphate of lime*, and a small portion of phosphate of iron remained undissolved by the acetic acid. The filtered liquid which held the phosphate of lime and iron in solution was found to contain a small quantity of sulphuric acid, but a much larger portion of phosphoric acid.

The intestine which had been boiled in distilled water was then boiled with nitric acid until nearly dissolved; the excess of acid being expelled by evaporation, was diluted with distilled water and filtered. The solution contained sulphuric acid, lime, and a small portion of iron.

From this examination I was led to conclude the presence of

Superphosphate of lime,
Sulphate of lime,
Sulphate of iron,

which constitutes the well-known valuable compound of bones and sulphuric acid so extensively used for manure, but containing rather a larger quantity of iron than I should have expected to find, unless the acid was very impure; pieces of iron, however, might have been accidentally dissolved with the bones by the acid, or any other metal might exist in such a compound, but none could be discovered in the part which I examined.

The contents of the intestines contained a considerable quantity of the same constituents, but none was found in the sweepings of the troughs which the sheep were fed from; nor had any of the compost been used on the premises for six months previous, which renders the case the more mysterious.

Mr. Spooner was of opinion, from a careful *post-mortem* examination which he made of the bodies of many of the sheep, that the appearances on the intestines were such as would very pro-

* Seven ounces of intestine boiled for twenty minutes in distilled water gave 7·5 grains.

bably be produced by such an agent as the sulphated bones, which would be rendered still more irritant in proportion to the amount of sulphuric acid left in a free state.

I believe no case of poisoning has occurred with such a compound as the above; but I feel myself justified in publishing the facts as I found them, in order that some caution may be used by farmers and others not to leave any of the compost in any situation where the cattle could possibly gain access, or where it could by any means be mixed with their food or water. The case in question, as above stated, was not traceable to any accidental cause.

Pharmaceut. Times.

ON THE HOOVE.

By ROBERT READ, *M.R.C.V.S., Crediton.*

[The two following are the papers referred to by Mr. Read in his article on "Vermifuge Vapours," in our Number for November last.—ED. VET.]

THE HOOSE IN CALVES.

[To the Editor of "The Farmer's Magazine."]

Sir,—WITH pleasure I take the first opportunity, through the valuable leaves of your excellent Magazine, to fulfil the request of an individual who signs himself "A Norfolk Steward," touching the treatment of the hoose in calves (arising from worms in the windpipe); and also a cutaneous disease of frequent occurrence in yearlings. I will not occupy much space, or waste the pages of your Journal unprofitably, by giving a full detail of the primary cause of these parasites in the air-passages of calves; but will refer you to an ably written paper on this disease by Mr. Mayer, V.S., of Newcastle, which appeared a few numbers since: and I will detail to you the most successful method I have found in expelling these thread-like worms from the air tubes and windpipe. In the first place, I do not rely much on the internal exhibition of any medicament, as it must travel the round of the circulation of the blood before it can reach the part occupied by these troublesome little parasitical insects; the effect of which would be, either rendering the agent employed too inactive, or not of sufficient power to exert any influence when thrown out by the exhalents of the air passages on them, impacted as they are, and enveloped in the mucous secretions of the respiratory tubes. The method I have adopted for the last fifteen years with great success (and it is of a frequent occurrence in my neighbourhood) is inhalation—that is,

making the animals respire or breathe certain exhalations given off from medicinal substances in a state of vaporisation, whereby it comes into direct contact with the parts in which these little insectile bodies are lodged. My first plan of proceeding is, when you have a number of calves with the hoose (arising from worms in the windpipe) well defined, and not caused from catarrh, or an inflammatory action of these parts, to pour into the nostrils of each two tea-spoonsful of the following mixture, first elevating the nose in an horizontal position,—sulphuric æther, 2 oz.; rectified oil of amber, 1 drachm. You may occasionally vary this by adding, instead of oil of amber, the same proportion of oil of turpentine, or oil of tar. Repeat this every second or third day for three or four several times. The *modus operandi* of this compound is from the heat of the nasal tube evaporating the mixture, when by respiration it is conveyed into the air passages. I have seen calves worn down to almost perfect skeletons from the irritation produced by this distressing malady, yet have soon recovered from only one or two applications of the beforementioned mixture.

The second plan is that of putting any number of calves into a close house, and allowing them to inhale the fumes of tar or the smoke of tobacco in the following manner:—Make a fire shovel to a dull red heat, enter the house in which the animals are confined, pour some tar on the hot iron gradually from a cup, and fill the house with the vapour of the same; and as soon as it excites sneezing or coughing, leave it off, shut the door, and confine the calves there for an hour: repeat this every day for several times. I have added also occasionally a small portion of sulphur with the tar, which, I think, has increased its efficacy; this has often in my practice proved an effectual cure: it is easily to be done, and of but little expense; sometimes, do what you will, it is attended with only a little benefit. I have known them to as quickly disappear from their habitation in those animals as they have appeared, from some unknown cause. The internal medicine I am in the habit of administering is the spirit of turpentine mixed in thick gruel, in doses of one or two ounces occasionally; but my chief reliance is on inhalation.

The cutaneous disease which your yearlings are labouring under I have frequently seen. You have called it the ringworm: I do not know that you could have given it a more apt term. It occurs in various parts of the body, more especially about the sides of the face, neck, and shoulders; the appearance of the patches may be seen at some distance from the animal, in the form of circular and oval rings, having a dry branny look, thin, and nearly devoid of hair. Your treatment should consist of the internal exhibition of sulphur, and daily to anoint the bald places with

an unguent composed of one pound of common tar, half a pound of hog's lard, and two ounces of oil of turpentine. Melt the tar and lard together; when nearly cold, add the turpentine. Do not apply strong solutions of mercury—they are injurious; I have known animals killed by it, from being washed with lotions compounded of it. As the spring advances, a bite of good young grass will expedite the cure by restoring the functions of the skin. I have no doubt of its contagious character, from its commencing generally with one or two, and then running through any number of animals confined with them: the houses or sheds in which they are confined I generally have well washed with lime, as a further means of prevention. Can you glean but a mite of information from the perusal of these few lines, it will afford me a pleasurable satisfaction. I shall be always ready to answer, as far as my humble abilities will permit, any request from any individual, through the means of this excellent Journal, that will promote the interest of the agriculturist.

I remain, your's respectfully.

ON THE HOOVE.

By the same.

Sir,—AN error having found its way into your excellent Periodical of last month, I feel anxious to correct it: no doubt it arose from a cursory view taken by your printer, the two words "hooose" and "hoove" being widely different. Hooose is a cough in calves, arising from worms in the windpipe; hoove is an inflation, with an impervious egress of air or gas from the rumen of cattle, evolved from the fermentation of its contents: instead therefore of heading the article "On Spontaneous Hooose in Cattle, by the Professor Gells, of Toulouse," it should have been "Hoove." I perceive it is correctly done so in THE VETERINARIAN, from which it is taken. Your widely circulated Journal being devoted to the welfare of the farmer, I beg to offer a few remarks on the French Professor's method of procedure in this spontaneous and sometimes instantaneous disorder of the rumen, or first receptacle for food in ruminants, or animals that chew their food over again, called rumination, or chewing the cud. In mild cases, the Professor says walking the animal about will do good; and so it will in more violent cases, provided the inlet and outlet of the rumen is not closed, so as to prevent the imprisoned air within its parietes escaping either through the œsophagus or gullet in the form of eructation, or per anum by wind, which is Nature's own effort to cure or

relieve herself. Now, in the acute hoove the administration of a few ounces of ether, or ammonia, or aromatic water which the Professor extols, is not energetic enough in its action, neither is it always at hand; in short, it is too characteristic of the French method of practice, and too vaporizable to be carried into effect. Should cattle by accident break, or be inadvertently turned into a piece of fresh or young vetches, or after-grass or clover, or lucerne while wet with dew, hoar-frosts, or showers, acute hoove would be the result in some of them. The rumen or first stomach would be rapidly inflated with gases of an heterogeneous character, requiring quick and prompt relief by either the flexible tube, or puncturing the stomach with a trocar, not the giving of a little ether or aromatic water: it would be next to an impossibility for it to enter the stomach when the animal is ready to fall from flatus; at the best of times it is difficult and uncertain to ensure the entrance of fluids into the rumen of cattle. I should say, with due deference to the Professor, that on a farmer going into his fields where cattle are depasturing, and perceiving one or two blown and ready to drop from inflation of the stomach, the speediest and best plan would be, to avert impending danger, at once to introduce his sheep's foot knife into the paunch, and let loose the confined gas or air; if time can be spared, introduce the flexible tube or trocar.

The flexible tube, or probang, is a safe instrument; it readily allows the air or gas to escape from its confinement when fairly introduced into the stomach. The Professor must certainly make a great error when he says it is a dangerous instrument; there is no danger in introducing it, if only common care is observed. The only danger in its use, is when a foreign body is lodged in or impacted in the gullet or throat; but when there is nothing in the œsophagus to obstruct its passage, any one ignorant of the structure of the parts can pass it on into the rumen. The French pathologist is also adverse to the use of the trocar; but as Mr. Youatt justly remarks, he cannot divine for what reason the trocar with its canula is an useful instrument for puncturing the rumen of cattle. I may say that the conjoined use of the probang and trocar has been the means of saving thousands of head of cattle. There is also another method of relieving acute hoove in cattle: it is simple, but of real value—not in its component parts, but in its mechanical operation; with ease to be procured at the farm, if no tube or trocar is at hand. Make three or four pellets of lard, salt, and flour, into a firm consistence about the size of an egg; give them to the animal one after another quickly: it will frequently break through the floor of the œsophagean canal, and make an opening into the stomach, let loose the confined air, with sudden relief to the beast. The phantasms of the Gallic Professor may

do to be disseminated amongst his own kindred; but they are by far too meteorized, contain too much ether and carminative water, for John Bull. I again assert from practice, that in all cases of acute hoove arising from mephitic gases evolved from the ingesta of the stomach, nothing can enter it in the form of liquids; in fact, its apertures for ingress and egress are hermetically sealed from distention and pressure of its sides on the surrounding organs; manual effort, either with the probang or trocar, will be your safeguard, so rapidly does the rumen contract on its contents. I have seen fluids ejected with force to the distance of several feet through the flexible tube, and relief in a moment obtained. Now, as to medicaments in acute hoove, should they by chance enter the stomach, I do not see how good can be derived from the administration of such small doses of ether, or ammonia, or aromatic water; their proportions are too minute to neutralize or absorb the quantity of mephitic air the rumen is capable of holding: should they enter the stomach, the generating gases produced from the heat and humectation would be more than an equivalent for that destroyed or neutralized. The vaporizable bodies before named, should they enter the stomach, and its entrance be closed on them, must still add to its further inflation. There is as yet no direct proof of any agent capable of diminishing the bulk of gases of an heterogeneous kind, but only of an homogeneous quality; for instance, by only putting a little ether into a bladder, closing its neck, putting it in a warm place, distention will soon take place. This is to illustrate, that diffusible substances must tend to aggravate rather than relieve, if they do not lessen by neutralization the bulk of contained air; if the gas given off from the contents of the stomach was uncombined, a chemical agent would do good if its entrance was certain. In the acute hoove nothing must fall short of prompt measures, by first of all letting out the pent-up air or gas, by which you wilt prevent apoplexy, suffocation, or pulmonary congestion; secondly, by bleeding to relieve the parts—the distended bloodvessels; thirdly, by purgatives, to clear out the alimentary canal.

In the subacute hoove, either as a sequel of the acute or primary in its origin, aromatics and stimulants will do good, but must be given in a solid state, that they may enter the torpid rumen, and rouse its atony; laxatives will also be required to clear the bowels, given in large potations of gruel.

I hope I have not too long trespassed on your valuable Journal: my only object is to do away with any thing that may tend to mislead rather than instruct, for the good and benefit of the British farmer.

REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

DE LA CONFORMATION DU CHEVAL, *suivant les lois de la Physique et de la Mécanique. Haras, Courses, Types Reproductives, Amélioration des Races, Vices Redhibitoires.* Par M. A. Richard, Docteur en Médecine, Ancien Cultivateur et Elève de l'école d'Economie Rurale et Vétérinaire d'Alfort; Directeur de l'école des Haras; Membre de plusieurs Sociétés, &c. Paris, 1847.

ON THE CONFORMATION OF THE HORSE, *in accordance with the Laws of Physics and Mechanics; and on Breeding, Racing, Hereditary Properties, Improvement of Breeds, and Unsoundnesses.* By M. A. Richard, M.D., &c. Paris, 1847.

TO whatever extent British veterinarians and equestrians may boast of their comparative superiority in matters of practice and adduce their national breeds of horses, their feats in racing and hunting, and even their results in veterinary medicine, in proof of such alleged superiority, Frenchmen will beat them out of the field when the pen, and not the whip, the spur, or the lance, comes to be the weapon of combat. According to a calculation made by Leblanc from the "Catalogue des Livres," published by Huzard, up to the year 1838, there have been published 694 works on horse medicine, 11 on dog and cat medicine, 8 on pig medicine, 78 on sheep medicine, 296 on cattle medicine, and 216 on domestic animals generally, not a tithe of which are English, and more than half of which are French. And while English veterinary literature is unable to produce a single indigenous systematic work on the exterior conformation of the horse, our nearest continental neighbours, to say nothing of the standard work of the father of modern veterinary medicine (Bourgelat) on the subject, and of others of little note that have appeared in the interval, have within these last few years published two, both excellent in their day and sphere; to wit, that of Lecoq, and the one at present before us.

In fact, with us there is a manifest want of sources of tuition in this department of veterinary science. There are not only no works devoted to the subject, but there are no lectures, no instructions given on it. And yet there is hardly a horseman in Britain who, were his knowledge about horses questioned in this respect, would not feel it as a reflection of as derogatory a character as could well have been thrown out against him. And there certainly does exist current among men that have much or all to do with horses in our own country, a sort of traditional practical knowledge of the "make and shape" of horses, the purposes for which they are fitted, and their capabilities, which might well surprise a foreigner or any other person when he came to be informed that such knowledge had no other source save its being handed about from man to man, and its being improved through observation and experience, according to the aptitude and abilities of the individuals with whom it happened to be lodged.

M. Richard has made four divisions of his work. In the FIRST, he says, it shall be his endeavour to shew that the breeder who takes upon himself to frame living machines ought at least to be as well prepared for his work as a maker of artificial machinery. The artist who models living matter can succeed but by dint of theoretical and practical studies.

"THE SECOND PART is devoted to descriptions of the horse. Bourgelat's precepts have, up to the present time, been followed. M. Richard contemplates making extensive reforms in them. Knowledge of horses is grounded on mathematical and physiological science. Those who do not study it upon this basis can never thoroughly comprehend the question of the perfectionation of breed.

"IN THE THIRD PART, the proportions of the horse as established by Bourgelat will be examined. This great genius would have the proportions of the horse established upon the same principles as apply to man. Here he was in error. Man's beauty is ideal or conventional; that of a horse is mathematical.

"IN THE LAST PART, breeding is considered."

Passing the "First Division" of the work by in silence, we come to that which immediately concerns us on the present occasion; viz.

"THE DESCRIPTION OF THE DIFFERENT PARTS OF THE BODY OF THE HORSE."

After premising a few general observations touching the nature or original country of the horse—which, after all, for certain “appears unknown—and giving an outline of his zoologic and generic characters, M. Richard proceeds to describe, in detail, every individual part or section of the body of the animal, commencing with the head and finishing with the foot. Of course, the great bulk of these descriptions is common-place—such as is, or rather ought to be, taught in all schools, or as is contained in Bourgelat’s and all who have of necessity followed in the same track of truthful delineation. But M. Richard has interlarded his descriptions with physiological observations and remarks of a character such as demand that we should on the present occasion serve up to the best advantage to our readers; and which will shew them that he, as an author, ought to be far from being regarded as a servile follower of those who in the same departments of science have preceded him. For example, he characterizes

“THE HEAD, as being, in the animal kingdom, one of the most interesting parts for study of the vertebrate species, on account of the important purposes it answers. It includes the principal organs of sense, and Nature has disposed its osseous system to receive and protect these organs, and to put them into the best possible condition to answer the end they are designed for. The head also contains the organs of mastication. And from the teeth being the indices of age, the head is of great consideration in a commercial point of view. We would likewise remark, in the study of the head as a whole, on certain *physiognomic characters*, no less useful to us in determining the breed and blood of the animal than in estimating its nobleness of disposition and moral character.”

This last observation is sufficient to shew that Richard’s mind is not totally insensible to that species of information which those whose experience among horses is greatest know best how to collect and appreciate, viz. physiognomy, or, rather, phrenology. We have long harboured a desire that some able pen, in union with some apt pencil, would take up so interesting, and, we may add, in some important points of view, useful a subject. Animals’ heads and visages afford to the observant eye a certain kind of knowledge, which to another, indifferent about or incapable of estimating such matters, comes but too late. Disposition, temper,

vice, courage, endurance, are all indicated by the size and shape of the head, and the expression of countenance, quite, we believe, to the extent they are in man; and had our attention been, in the one case as in the other, directed to such curious points, we think our judgment would have been in either case equivalent. We are acquainted with a gentleman on the turf whose judgment in horsemanship we believe to be unsurpassed, who will on no occasion make purchase of a racer unless his *head* be such as he approves of, holding make and shape subsidiary to this; and his success, through a lengthened racing career, has been such as to place this opinion upon very high ground. Breed and ancestral character must, of course, have their due weight; but in selecting untried specimens of the same blood, the greatest respect should be paid to the peculiar conformation of the head. And we can only repeat our hope, that the day is not far distant when some experienced hand will, through delineation as well as description, make the horse-public thoroughly sensible of this.

In the absence of that expression of countenance and change of feature which so strikingly in man portrays the passions and inclinations, horses and other animals, by the motions of their *ears*, denote their feelings and propensities; and to observant persons who spend much of their time in the stable, such telegraphic communications convey on many occasions pretty unmistakeably their meaning; though in order to interpret such meaning correctly, requires knowledge of the circumstances under which the communication is made. For example; the presenting forward, or “cocking” of the ears indicates, at one time, ease, contentment, good humour; while at another, surprise or fright is shewn by it. The laying back of the ears ever excites alarm, or caution, on the part of the attendant on the horse; if not a premonitor of vice or absolute mischief, it is one of a playful indication which not unfrequently ends in mischief. But let us see what Richard has observed about the ears, he having devoted no less than half a dozen of his pages to the subject.

“The study of the movements of the ears, and their attitudes, frequently furnishes us with means of estimating the moral character of the horse. In general, we should mistrust him who laid his ears back at the time we approached him; he then either

means biting or kicking. When horses move their ears in different directions, and we remark in their countenances an air of inquietude and distraction, they are very likely to turn out skittish and shy, and therefore in riding such, attention should be paid to this to be prepared against anything that may happen. The fearless confiding animal frankly points his ears forward, looking at you with an expression of fidelity, resignation, and good nature, easy of recognition when sought by observation.

“The ears of the blind horse have a movement peculiar to themselves. They give him an air of stupidity or indecision, in fact, characterize him in a manner unmistakeable, and yet undescribable. They altogether change his physiognomy, so much so indeed that one has but to behold him to detect his blindness, without examining his eyes. The animal appears desirous of supplying the defect of his lost sense by that of hearing, which he still retains: he endeavours by every means left him to compensate for his deficiency, which he now seems to feel in all its importance to have been one of the most essential conditions of his existence. This accounts for blind horses being so attentive and obedient to the voice of their masters, as well as to that of their attendants. This marked attention gives an attitude to the position of the head as well as to that of the ears, indicative of good nature, and such quite alters their physiognomy. We may justly say, that as the loss of vision changes the expression of features in man through the defect of the influence the eyes exert, so the ears of the blind horse no less forcibly strike upon our observation. So likewise does the horse whose eyes are imperfect give indications thereof by the motions of his ears.

“Deafness is rare in horses, and it becomes less liable to detection on purchase from the circumstance of its seldom being thought of. We do not discover it until we come to make use of the horse, and then even not perhaps until he has been some time in our possession. In itself, this defect is attended with no other inconvenience than that of preventing the horse hearing the voice of his master, and consequently obeying him. The ears of deaf horses move but little; generally they remain immovably fixed forward, in the direction in which the horse is looking, as if listening to something.

“When horses are cast out of the (French) regiments of cavalry, they slit the extremities of their left ears. This is done to prevent the possibility of their being re-purchased. For if there be perceptible in any horse's ear a cicatrix looking like that of a suture, which sometimes is the case, his left haunch is examined for traces of the brand of the regiment from which he has been cast.”

(To be continued.)

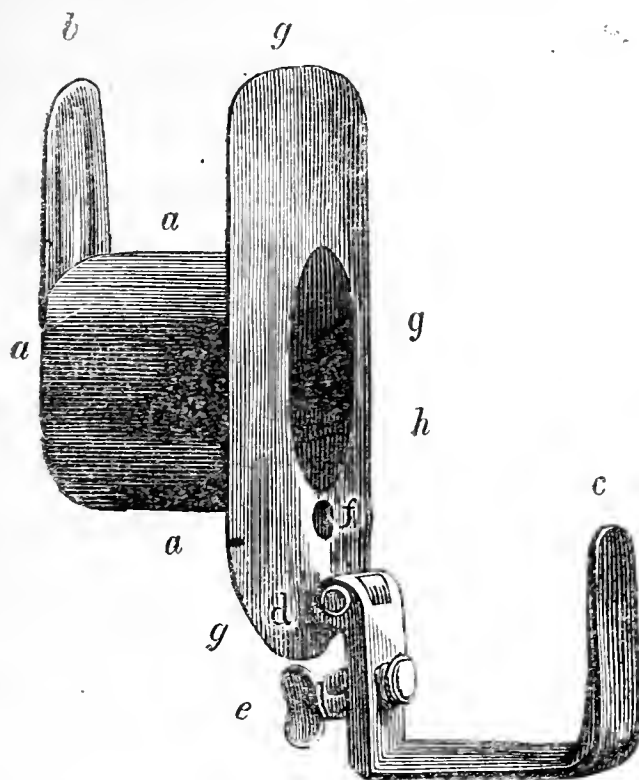
BRONCHOTOMY BREATHING TUBES.

THE instrument noticed in our Number for August last appears to us, on further examination, so well calculated to answer the purpose of its intention, that we have had a drawing made of the one now upon our table, which Mr. Dawes has had constructed of *German silver*, and thereby has, in a great measure, removed what we before complained of, viz. its weight and cumbersomeness.

Mr. Ernes writes to us, that he bought the two tubes—the pewter and the brass one, which somewhat differ in their construction—some ten or twelve years ago, from our worthy professional fellow-labourer, M. Leblanc, whose inventions they are; and who at the time informed Mr. Ernes he had kept one similar to the instrument represented in the cut, in the windpipe of an entire horse, employed in drawing stone for building, *for six years*, and by that means had enabled him to work at times when the difficulty he experienced in his respiration was such that without the tube exertion would have been impossible to him.

Mr. Ernes has had both tubes in use himself; indeed, he generally employs them for the relief of symptoms of suffocation, and reaps real advantages from them, there being no chance of their becoming displaced in the neck, and an utter impossibility of their ever sinking into the canal of the windpipe. Objections have been made to the magnitude of the instrument—the one represented on the next page is half size: when the tube of the instrument, however, comes to be compared with that of the windpipe, such objections vanish. Some persons have thought it prudent to cover the external aperture of the tube, while the instrument was in the neck, with a wire gauze, to shut out dust and dirt. Such a precaution, however, Mr. Ernes considers quite unnecessary.

a, a, a, The tubular part of the instrument, which is an oblong oval, for introduction through the incision made in the neck into the cavity of the windpipe; in which it will be retained by the concave ascending plate *b*, proceeding from the upper border of its internal aperture, which in such manner acts as a *stop*, superiorly; while *c*, acts as an inferior stop, as soon as it is turned over through the tube, by means of its hinge at *d*, and secured in



that (turned over) position by the screw at *e* being turned twice or thrice, to make its point enter the small hole through the shield at *f*. Thus will the instrument be held in the neck by stops rising, both upwards and downwards, within the cavity of the windpipe, abutting upon the back fronts of the cartilaginous rings.

g, g, g, The shield of the instrument, intended to cover the opening made, in bronchotomy, through the skin.

h, The external aperture of the breathing tube, through the centre of the shield.

THE VETERINARIAN, JANUARY 1, 1849.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

THE lecture Mr. Cherry was somewhat unexpectedly called on to deliver to the Farmers' Club on the occasion of their meeting, on the 6th November last—as transcribed in an abridged form into our Journal for last month from a lengthened report in “The Mark Lane Express”—on the disease which has proved so destructive to cattle life, under the appellation of “Pleuro-pneumonia,” and which is said also to have proved the *opprobrium* of veterinary science, together with the discussion to which the lecture on the

occasion mentioned gave rise, involve subjects of vast and vital import to us veterinarians, not as regards our science alone, but as concerns our reputation as well.

Touching the question of the cattle murrain, the fact is no less sorrowfully obvious to farmers and graziers than to ourselves, that an unprecedented fatality has followed the disease in almost all parts of the country; and that while this fatality has given rise to loud complaints from proprietors of the cattle, veterinarians have not altogether escaped vituperation for "letting" the cows and oxen die in such numbers. It was naturally supposed by the farmers and graziers in the country, that the veterinary practitioners who had "passed the College," and set down in their respective neighbourhoods, had come among them armed with all manner of remedies, antidotes, and "cures," for any and every ailment horse, dog, ox, cow, or sheep, might happen to become afflicted with, and that the sick animal had only to make its moan through its master to the "doctor," to be restored to health and soundness. Wofully, however, in the cases of cattle and sheep, in too many instances, has disappointment usurped the place of hope, aggravation of relief, death of cure. It was declared the doctor did not know his business; nay, it was broadly asserted that the herdsman and the shepherd were, even in the case of sickness, the doctor's superiors.

But who were to blame for all this? Was it the infatuated aspirant who had left "College" with the certificated assurance in his pocket that he was "duly qualified to practise the veterinary art *in all its branches?*" or was it those who, knowing the contrary, had cruelly imposed upon him a fictitious diploma? The only strange part of the eventful history of cattle and sheep medicine is, that the farce has been enacted so long, that farmers and graziers into whose localities such diplomaed, but, in truth, *unqualified* offsets from the Royal Veterinary College have come to settle, have not in times long before discovered their want of knowledge to medically manage and treat cattle and sheep. For half a century has this delusive system of education been going on; and yet, forsooth! the Royal College of Veterinary Surgeons have reproach at the present hour cast in their teeth, because they are endeavouring to introduce reform into such pernicious practices! *Esto perpetua* would the Professors say to the old *régime*;

while they wish the new, with all its followers, were translated to the Hottentot's land in South Africa.

Referring to Mr. Ellman's speech, as reported in the aforementioned discussion at the Farmers' Club—which, by the by, is any thing but complimentary to our profession—we presume that gentleman must have been unlucky enough to have encountered, in his application for medical aid for his sheep, some one of the unfortunate individuals whom their *alma*, or rather *falsa*, *mater* had deluded into a belief that they were “qualified to practise” that which they had never learnt—never, indeed, been taught. When Mr. Ellman comes to see matters in this light, he will probably feel regret at the anathemas he has passed upon veterinary practitioners, and be led to regard them as a body “more sinned against than sinning.” Whatever may be the qualifications of his shepherd, he cannot for a moment entertain the belief that his sick sheep is safer in his hands than in those of a man acquainted with the principles of medicine; for if a state of ignorance of principles be blissful or advantageous, and practice alone be all that is required, then, indeed, are schools of no utility, and books but waste paper. The motto of the Agricultural Society is, “practice with science;” ours is, “science with practice:” to set a child to read before he has learnt his A B C, appears to us like putting the cart to draw the horse. Practice, no doubt, in farming concerns is the *sine quâ non* of success; but, then, look at the difference between the practice which has science for its guide and that which blindly pushes forward in pursuit of science.

Before we conclude these observations, we would fain whisper a word in the ear of that individual of our profession who may find himself in the sad dilemma of having embarked in practice without that knowledge of sheep and cattle medicine and management which it is absolutely necessary for him to possess in order to enable him to do that justice to his patients and employers, which, in conscience and in duty, he is bound to perform. Let him remember that many of his profession before him must have found themselves in the same predicament, and then let him look around him, and see what number of these “many” have in after-life made themselves, *by their own exertions*, skilful and successful “cattle doctors.” He must not forget that the principles of horse medicine

with a little judicious variation become those of cattle and sheep medicine, and that practice and observation may be made to fill up in his mind the deficiencies. That he was not taught medicine as applied to dogs and cattle and sheep, is no blame of his; but he will be to blame, and seriously so, if he do not, with all his power and might, seize every opportunity of gaining information on these subjects, as well from books as from observation; so that, when called on, he may find himself in the enviable situation of a medical man in practice who is prepared to meet every description of case, to encounter every emergency.

Finally, we would remind farmers and graziers that, would they avail themselves to the fullest extent of the aid of the veterinary practitioner, two duties on their part are owing to him:—one is, to call him to the assistance of the sick animal *in time*, ere the stream of life has been ebbing too long to be turned back again; the other, to afford him, when called in, every liberty and assistance in their power. Let them remember that there is a point in the ebb of vitality, beyond which human aid counts for nothing; let them also remember that, to render them likely to prove serviceable, the doctor's hands must not be tied, but, on the contrary, have every scope and required help given to them. Are farmers and graziers in the habit of so acting? Mr. Wadlow, whose letter on the subject stands in our present Number, shall answer the question.

“When their cattle are attacked, they employ the cowleech, who generally administers some favourite nostrum, as applicable for that as for any other of the many diseases to which it is invariably applied; and thus the disease goes on, each day becoming more virulent, and attacking other animals. Then, when the wisdom of the owner and the ingenuity of the cowleech have been exhausted, and the disease has become aggravated to its utmost extent, the unfortunate veterinary surgeon is called in, though, unless he can bring supernatural means to his aid, he can indeed do nothing; and then he is blamed for malpractice and want of knowledge.

“I write this with a thorough knowledge of its truth. All my relations, both by consanguinity and marriage, are farmers—all more or less owners or breeders of cattle—all opulent—and, with

a few exceptions, as illiberal as the rest of their class; and thus they have fared. In those homesteads where the veterinary surgeon has been a stranger, where farmers button up their pockets at his approach, lest a moiety should be required from their purse towards providing the clean shirt and decent habiliments for the respectable professional man;—there, where regarded as a disagreeable interloper, treated only with half confidence, with every obstruction thrown in his way from the ignorance of those about him;—there the malady makes its way unchecked. But among the few where the professional man is a frequent guest, considered as a friend, respected for his ability, and confidently resorted to for his assistance, there, they have feared no malady and have suffered no loss.”

Voilà la difference! And this, as Mr. Wadlow with truth says, constitutes one special reason why the practice of horse medicine is acknowledgedly eminently good, while that of sheep and cattle medicine is denounced as eminently bad. But such a state of things must not endure. There exists no earthly reason why one practice should not be as efficient and satisfactory as the other. Veterinary surgeons must be better qualified; farmers and graziers must think more of them, and not be so “penny wise and pound foolish.” The veterinary art was instituted to advantage them in a peculiar degree, and they must be taught, *by results*, the superiorities it holds out to them over the absurd and pernicious practices of cowleeches, and herdsmen, and shepherds, *et hoc omne gènus*.

AGAIN has the season come round when over-fed, over-gorged animals are exhibited as Christmas faré, when mountains of animal obesity drag their unwieldiness about; but, after many years' pursuit of an object which had for its end the production of *mere fat*, a change has come over the spirit of the dream; and those who, erewhile, sought but to attain obesity, have learnt that something more was requisite—that other things were wanted.

To say that the fat cattle, exhibited as competitors for the prizes given by the Smithfield Club, are specimens of the famed breeds of England, is a farce; they are nothing more than indi-

vidual animals, the production of the same breeders, year after year. In short, what was intended to produce a national benefit has degenerated into a competition amongst individuals.

To attain this one point of early obesity no pains have been spared, no expense grudged: the laws of nature have been set at defiance; breeding in-and-in has been resorted to, until at length the inevitable consequences are too glaring to be longer concealed: they meet the eye on every hand; and those varieties which have been the most *fashionable*, to wit, the Short-horns and Durhams, i. e. of the noted breeders of peculiar stocks, shew this the most, while those which have been less thought of present an unmistakeable superiority.

Compare the two first varieties with the Devons;—how marked their difference! The sheep, again, shew the same thing; but, from a necessity that could not be concealed, the marked distinction of varieties has greatly given way. It is now hard to distinguish one variety of short wool from another: the same as regards the long wools; hence, by this interchange with non-cognate animals, less deterioration is manifest.

In looking through the animals in Smithfield market, we see less fat, but more symmetry—less beauty, but more usefulness—less high breeding, but more perfectness of animal development. As the deformed or imperfect are carefully excluded from the one and sent to the other, so must allowance be made for this in the estimate of shape and make: but, looking at the question as a whole, the market far, very far, exceeds in value and usefulness the show.

Has it not occurred to the reflecting, that something better than mere fat was to be obtained by careful attention to breeding? That it has, is partly shewn by the new regulations for the judges by the Smithfield Club this year,—that fatness was not to be a criterion; but a reference to the Show proves that this was not always the rule.

The points of failure are many, and could be easily singled out; but one seems so glaring, that it is surprising it has so long been allowed to prevail,—unwieldy size. Two great ends are retarded by this; first, that a large variety does not so soon attain maturity, and requires more room, and consumes a greater quantity of food

than a smaller variety: hence the weight of animal nutriment for mankind to be obtained from a given extent of pasture or of artificial food is less when a large variety prevails than with a smaller.

Again; there is no comparison between the quality of the meat of a large and a small stock; but there is a medium for all things: it would be dangerous to have animals too small as too large, though even under-sized animals are better than over-sized. Independently of the finer quality, the proportionate weight is always greater. Who would suspect that a little Down sheep would make its 25 lbs. per quarter, running its opposite but larger congener, a Leicester, so close in weight? Why is this? Because there is less loose flabby cellular tissue, smaller bone, and firmer muscular fibre and fat.

Let any one try the experiment himself between the long-woolled and the short-woolled mutton: we have; and know not only which is the most palatable, but which contains the most nutriment, weight for weight. Not that our long wools are to be undervalued, unless food alone be the object for which they are kept: but it becomes a question in this age, and looking at the quantity of wool which is now imported, whether it would not be a national benefit to increase our stock of short wools, and, of course, diminish our long-woolled breeds of sheep; as a *food* question, no doubt could exist which ought to be the policy.

Since writing the above, we have perused some able comments by the Editor of "The Mark Lane Express" on articles on this subject in the "Times," "Chronicle," and "Herald;" and in many respects the opinions there given coincide with our own. There is one point, however, in which a popular but very fallacious error is allowed to take the place of argument; that is, as regards what is called the "laying-on of serviceable meat upon the parts most required." This laying-on of meat is a fallacy; it is nothing more than the addition of a certain portion of *fat*, which is deposited between the fibres and in the cellular tissue surrounding the muscles, which are, properly, the meat. Now, unless the animal has this meat or muscular fibre well developed, no feeding in the world will make it, or even increase it. There may be a large deposit of fat, fat being only nutriment stored away for the future wants of the system. But during this process of fattening

the tendency is always for muscular fibres to diminish in volume, and ultimately to disappear. Muscular fibre *without* fat is not very easily digestible; but still the stomach will not reject it. Fat alone is, by the great mass of mankind, incapable of being digested, and, to a very many, the attempt to swallow it produces an unconquerable nausea.

It is true that, within the Arctic circles, large quantities of the coarsest animal oils and fats are consumed with impunity. This is easily to be accounted for, from the excessive cold: but we in this kingdom do not rear animals for the purpose of supplying the Esquimaux, but plain and simple Europeans, living on a mixed diet of flesh and vegetables, nor does the climate produce such a degree of exhaustion as to render it necessary for the food to be so prepared that no time may be lost in digestion. In plain truth, *fat* is but little more than chyle partially vitalized, or the nutritious portion of the food which has been taken in excess, and laid by for the future uses of the animal economy; for this fat, before it can become *meat*, i. e., muscle, or form any other component part of the body, has again to undergo the process of absorption, and further assimilation, before it is fitted for the ulterior purposes for which it is destined in the animal economy; and which process of assimilation takes place in the transit through the lungs, aided, perhaps, by the circulation through the liver. Let us understand this, for upon it depends the whole art and mystery of fatty deposits.

The growth and nourishment of the body require a certain proportion of new material, to replace the constant change by absorption and excretion which is always going on. Let this quantity, so required, be represented by a supposititious figure 1: so long as the supply of food through the stomach balances this demand, neither fatness nor leanness can prevail. Increase the supply of nutriment to 2, then what is to become of the overplus? Either it cannot be assimilated, and passes off with the excrements, or it is taken up by the lacteals, and transmitted into the circulating medium, the blood.

Now, this redundant supply of nutriment has to be got rid of; but how? We have seen that the wants of the system are equal but to 1, while we have a quantity equal to 2. If an animal were

allowed its liberty, Nature would speedily relieve herself of the encumbrance. The animal would gallop, gambol, fight, or play, according as the disposition might be—largely increase thereby the excretions—bring the lungs into greater activity—consume, or, as it has been termed, “burn out,” a larger quantity of nutritive matter, and in a few hours the equilibrium would be restored. But with the feeders of fat animals these things are carefully eschewed; perfect repose is provided, and every inducement to increase the quantity of food eaten is had recourse to. Now, then, what is to become of this excess of nutriment? It is deposited in the cellular tissue of the body in the shape of *fat*.

Some of the causes of fat being put on in masses or lumps arise from over-fattening—bad formation—breeding in-and-in carried too far—weak constitution. Compare an ox that has been used in the yoke, before it is put up to fatten, to one destined to live a life of idleness, and become so obese that it shall be fit for competing for a prize. How different are the two in their developments and appearance! The idle one *looks* very far better than the probably lean worker; but what a difference there really is, and this greatly against the good-looking idler! The one lean, but the muscles hard and fully developed;—the cellular tissue but in small quantity—the weight being great, from the solidity of the component parts of the body. The idler, on the contrary, has its rotundity, from the deposit of superficial fat, dispersed through a large quantity of loose cellular tissue, from want of labour or exercise, to an extent which, in a natural state, it would have: the muscles are not fully developed—soft, mixed up with much cellular tissue. Put these two animals, originally alike and of the same age, into the stall at the same time. The worker lays on fat evenly; the muscular fibre is but slightly diminished; but a deposit of fat taking place amongst the fibres, gives that rich marbled appearance which is so sought after, and which we often see wanting in the prize animals.

Perhaps some of our readers may know the delicious flavour of the pork from a “stubbler” (that is, a pig that has run over the corn-fields after harvest), of from 60 to 80 lbs. weight: there is not the remotest comparison between it and the “dairy-fed” pork

so much vaunted. The same thing is apparent between the Downs and the Leicester sheep;—not in the mere difference in the variety, but from the different circumstances in which they have been reared, and to a degree becoming perpetuated. Were we desirous of placing before a friend the most delicious mutton, we should select a joint from an old Down “crone” or broken mouthed ewe, or what our forefathers called “seven-year-old mutton*,” properly fattened; and for delicacy and flavour nothing can surpass it. It is not so much in sex that the difference lies, but in the manner in which the sexes are treated.

Now, certain consequences follow each other as a matter of necessity. If you have not symmetry, you cannot have full development of muscular fibre;—if you have not muscular fibre, you cannot have good “serviceable meat.” You may have fat without it, but it is useless waste: therefore it follows that every attention must be paid to the attaining as perfect a development of form as possible. The power of getting properly fat will follow as a matter of course, but the power of getting into this desirable ingrained state of fatness will vary in different varieties; and, *cæteris paribus*, large animals do not arrive at this point nearly so soon as smaller varieties, because large animals require longer time to arrive at that state which is termed maturity. A man 5 feet 6 inches at eighteen years old is as capable of endurance as a man 6 feet 2 inches at twenty-two or twenty-four years old; that is to say, the former has arrived at, or as near to, the state of maturity as the latter at these respective ages. Experience teaches us that the same law holds good in animals, and about in the same relative proportions.

* Now so rare.

[*The following remarks would have appeared in December had there been room for them.*]

In reference to the opinions of Mr. Broad on the somewhat mysterious subject of "megrims," as expressed in THE VETERINARIAN for November, supported as they are on one side by Mr. Woodger, and questioned as they are on another side by Mr. Baker—whose communication will be found in our Number for last month—it seems to us that, in both accounts, views too restrictive have been taken of the etiology of a disease familiarly known to veterinarians and others under an appellation which really is significant of no more than a striking symptom exhibited by it, or rather, we would say, of its *diagnostic symptom*. That megrims occurs more frequently in harness horses—much more frequently than in others—Messrs. Broad and Woodger's observations, extending as they do over a series of years, in combination with those of others, we are of opinion, leave little room for doubt; but that horses that go in harness are the *exclusive* subjects of the disease, our own experience denies.

Between drawing and riding hardly a better contrast could be adduced than the examples afforded by horses employed in cab and omnibus and carriage work, and those of our cavalry. In one situation the horses are never out of harness, in the other they are never in. Therefore it follows that, if either the harness collar or the bearing-rein be the occasion of megrims, cavalry horses ought to be entirely exempt from such a disease. And to a very great extent they are so; but not *in toto*, as the following case, which occurred under our own immediate observation, will, we think, most satisfactorily go to prove.

In the year 1832 was recruited by the First Life Guards a very handsome three-year-old grey mare, who for the first half-a-dozen years of her servitude ailed nothing to be complained of. Subsequently, however, she evinced a good deal of shyness, on occasions, about her head; was averse to having it handled or cleaned; and acquired the habit of "weaving" in her stall. This was succeeded by regular fits of megrims: she would, when ridden, at times, throw up her head in the way megrimed horses do, become dizzy and vertiginous, stop and stagger and reel round, and more than once has, in her fit, been near falling backward with her rider.

For these reasons she was not permitted to do any field or fast duty, but was made what is called "a recruit horse" for riding-school purposes. In May 1838, and in July and October 1839, she was admitted into hospital to be bled and physicked on account of her "fits." In November 1843 she was attacked with pain in her belly under the ordinary form of "gripes;" and her disease turned out of so violent and obstinate a nature, that, after suffering extremely for three days, in spite of every activity and variation of treatment, she died; thereby affording us an opportunity not only of investigating the cause of death, but, at the same time, of searching into the pathology of her megrims. Unrelieved constipation, arising from strictured intestine, appeared as the immediate cause of death; but what we have especially to do with here is the state of her brain. The substance of the cerebral organ was remarkably firm, and everywhere, when sliced, exhibited red spots, indicative of congestion or of an unusual degree of vascularity. The pineal gland was nearly double its natural size, and when cut into discharged a quantity of fluid, like serum, that had been collected within it. These were the only anormal appearances detected. How far either or both of them are connected with megrims we must leave others to determine. The subject, as we observed at the beginning, is not devoid of mystery; and it would be materially aiding the cause of our science would others of its professors and practitioners lend a helping hand in its unravelment.

HORSE CHAUNTING PUNISHABLE BY TRANSPORTATION.

William Mowatt, a person having the appearance of a horse-dealer, was indicted at the Central Criminal Court for having unlawfully conspired with two other persons, named Ward and Bupp, to defraud James Beadel of £65 by false pretences.

Mr. CLARKSON prosecuted, and Mr. BALLANTINE was for the defence.

The particulars of this case have been recently given in the police reports, and the charge arose out of a proceeding which is generally described as "horse-chaunting." It appeared that the prosecutor, who is an auctioneer and land agent residing at Broomfield-lodge, near Chelmsford, and who also has a place of business in Gresham-street, being in want of a pair of particularly quiet horses for his own use, saw an advertisement in the *Times* of the 6th of November, representing that two horses were for sale at a

stable in Turk's-head-mews, Harley-street, which appeared to be quite the sort of animals that he was desirous to obtain. He accordingly went to the stable, where he saw the prisoner, who shewed him the animals, and stated that they were the property of a lady named King, who resided at Eastbourne, and that she had bred one of them and purchased the other about two years before, and that he (Mowatt) was her coachman, and had driven the horses constantly together for the last two years in a clarence carriage, and that they were particularly quiet, good animals. The prosecutor pressed him with regard to the point of quietness, and Mowatt then with great earnestness repeated the story, and said that the larger horse of the two had been driven by his late master in single harness, and was an excellent horse. The prosecutor inquired the price, and was then referred to another man named Ward, who represented himself to be the job-master, and he said that Mrs. King expected to get a hundred guineas for the horses, but he thought she might take eighty guineas, as she was at great expense for their keep, and also the expenses of the coachman, and would be glad to get rid of them. The prosecutor refused to give that sum, and Ward then said that a relation of his, who was an omnibus master, had offered him seventy guineas for the horses, but that Mrs. King was so fond of the animals that she would not allow them to go into any other than private hands. At length the prosecutor, upon the faith of the representations made to him, and believing that he was buying a pair of horses the genuine property of a lady of respectability, consented to give £65 for the animals, and they were sent the same evening to the Eastern Counties Railway station at Shoreditch, and the prosecutor paid Ward the sum agreed upon, and received from him a receipt, in which the animals were described as sound and quiet in single and double harness; and it was also stated upon the document, that if the horses were not approved of within one week they were to be returned, and the money should be refunded. The prosecutor then proceeded with his purchase to his residence at Chelmsford, and the next morning a trial was made of the capabilities of the horses, when it was soon discovered that they were a couple of vicious, useless brutes. It was with considerable difficulty that they were got out of the stable-yard, and, after they had proceeded a short distance, they began to rear and kick, and also attempted to bite each other; and it was very evident that, so far from their having been constantly driven together, they were not at all used to harness, and, instead of having been constantly driven together for two years, in all probability had never seen each other until they were introduced to the stables in Harley-mews through the instrumentality of the defendant. The story about the lady, of course, turned out an entire fabrication; in fact, what in the lan-

guage of this fraternity is called "a good cheat;" and the prosecutor, upon going to the stable where he first saw defendant, a few days afterwards, found it shut up, and none of the parties could be met with. Information, however, was given to the police, and the prisoner was taken into custody upon the present charge.

Mr. BALLANTINE having taken some technical objections to the indictment, which were over-ruled, made a very ingenious address to the jury on behalf of the defendant, who, he urged, had only done that which was the every-day custom where a horse was to be disposed of—namely, told a great many lies with regard to the good qualities of the animal. He said that people who went to buy a horse always were prepared for such proceedings, and, after listening to all that was said by the seller, they only believed so much of it as they pleased. He would not attempt to justify the conduct of the defendant, but in horse transactions every one knew that people were not very particular; and, he contended, the matter ought to have been made the subject of an inquiry before a civil tribunal, instead of being brought forward as a criminal charge.

The RECORDER having summed up, and explained to the jury the law in reference to the alleged offence, they deliberated for a short time, and then returned a verdict of *Guilty*.

The defendant was then called up for judgment, and his Lordship observed, that frauds of this description were very prevalent, and they must be repressed by the law. The conduct of the defendant and the other persons, who evidently acted in concert with him, was nothing less than a conspiracy to rob. They inserted an advertisement in a newspaper of a character calculated to attract attention, and when any one came to their stable in consequence to see the animals referred to, they were ready with a plausible tale, calculated to throw a person off his guard, and induce him to part with his money for an almost worthless article. At present he should not go to the full extent of the law, by passing a sentence of transportation; but if the punishment he was about to inflict was not found to have the effect of checking this offence, persons concerned in these proceedings might rely that the law would be carried out to its full severity until that result was obtained. The defendant was then sentenced to be imprisoned and kept to hard labour for one year.

OBITUARY.

At Bowenpilly Secunderabad, East Indies, on the 28th of October, of fever, John Field, Esq., Veterinary Surgeon to the 3d Light Cavalry, E. I. C. Service, in the 26th year of his age.

On the 16th December last, in consequence of a fall from his phaeton, John Aldington Ainslie, Esq., of Nassau-street and of Shepherd's Bush, in the 36th year of his age.

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CONTRIBUTIONS TO THE PATHOLOGY AND PRACTICE OF
VETERINARY MEDICINE.

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Before commencing my "Contributions," a few remarks to the Reader may not be out of place. The cases which I give will be such as have come under my own especial care at the periods stated; and they were noted at the time with the greatest possible attention in my case book. For their accuracy I vouch in every respect, and can, if necessary, bring testimony of the highest character as to their truthfulness. For many years I have kept a register of such facts in my own practice as have struck me as being at all peculiar. Some of them I shall submit to the Reader. In most of the cases I shall give I shall purposely select such as have ended fatally to the animals spoken of. By so doing, I present, as far as it is possible for me to do, a complete history of the disease in each case reported; a method which, to the scientific reader, will be more highly valued than a vaunted detail of cures: a practice which is frequently and too successfully resorted to by quacks and impostors, for the purpose of preying upon the pockets of the credulous and simple minded. I deem it necessary to give the above explanation, lest the reader, not knowing my reason, might possibly conclude that I was singularly unfortunate in the treatment of cases entrusted to my care.

CASE I.

Lymphatitis, Megrims, &c.

May 26th, 1843.—I was requested to attend upon a horse belonging to Mr. W. North, market gardener, in this town.

History, &c.—The animal is of a dark brown colour, of the light draught breed, stands fifteen hands two inches high; has been in the possession of the present owner and that of his late father for a period of about thirty years, and the age of the horse is estimated by the family to be about thirty-four years; during which period he has suffered but very little from disease. In 1839 I attended upon the animal for an attack which he had of sub-acute pneumonia,

from which he readily recovered. About two years ago, he was seized, for the first time, with a fit of megrims; and from that period to the present*, he has continued to have such fits, when made to travel quicker than he chose to go of himself, particularly when drawing a load up hill, at which times they have always been observed to be more severe than when manifested upon even ground.

For several weeks past the old horse has accumulated flesh rapidly; and at the time I was called in, it was remarked by the family that for many years he had never looked better than at present. At 7 o'clock this morning he was fed as usual, and left; but upon going to him again about two hours afterwards, he was observed to exhibit symptoms of acute pain, and to breathe very hurriedly; and I was accordingly requested to see him.

Present Symptoms.—The horse is standing in the stable upon three legs, the left hind limb being held with the foot from the ground—great anxiety is depicted in the animal's countenance, and he frequently looks round at the limb held up—the respirations are 48 per minute—the pulse 96, and hard, and cord-like to the touch—the nostrils are dilated to their full extent, and the perspiration rolls in drops from the sides of the abdomen, the shoulders, and the thighs. The affected limb is greatly distended upon its inner surface, from its junction with the body to the very foot. The lymphatic glands are swollen into large lumps or masses, and towards them in all directions run a great number of lymphatic vessels, enlarged to the size of a thick quill; these enlarged vessels exist on the outer as well as the inner side of the limb. The surface of the swelling is covered with a serous exudation—the mouth is dry and clammy, and great desire is evinced for cold water.

The treatment consisted of bleeding—fomentations long continued to the limb—the giving of sedatives and purgatives; but, in spite of all remedies, the violence of the symptoms raged without any interruption for thirty hours, the size of the limb gradually increasing, until, in appearance, it resembled the limb of an elephant. The swelling also extended along the sheath, along the under surface of the abdomen, and the side of the flank.

28th.—To-day the pulse has fallen to 74, and the respirations to 28 per minute—the physic is purging freely—the pain in the limb is greatly abated—the animal has eaten a bran mash. To continue the mashes, with the addition of a few boiled oats and linseed. The swollen limb to be folded with bandages which have been dipped in hot water, and spirits of turpentine sprinkled upon them: the bandages to be changed every three or four hours.

* i. e. at the time I date the case from: let this be understood in all cases.

29th.—Still improving. Appetite better—pulse 55, and respirations 17 per minute—physic purging. Continue the treatment of yesterday. From this date the old horse continued to recover, and in about fourteen days after the last date he resumed his work. The limb, however, never subsided to its proper size, but remained greatly enlarged so long as the animal lived. For two years after the above the horse continued to labour as usual, without any intermission from disease, save now and then an attack of megrims; at the end of which time the infirmities incident to old age began to manifest their characteristics more fully: his eyes became amaurotic, and he was unable to rise when down without assistance, although the appetite and spirits continued as good as ever. It was deemed best, however, to have him destroyed, which was done by dividing the carotid artery. From the extreme age of the animal, and from the peculiar attacks of disease to which he was subject, I determined to make a rough dissection of the carcass, which I proceeded to do immediately after he was dead.

Dissection.—State of the digestive organs. The teeth, tongue, pharynx, esophagus, stomach (which was large and capacious), small and large intestines, were all remarkably healthy in appearance. The liver was firm in its structure, and dark in colour, and weighed sixteen pounds five ounce avoirdupois. A few large white worms were in the colon, but the whole of the digestive organs, to all appearance, were as perfect and as healthy as could be conceived.

Urinary Organs.—The kidneys, ureters, bladder, urethra, &c. were also in appearance perfectly healthy.

Muscular System.—The muscles of animal life, so far as I examined them, were firm and healthy in their organization: the colour of them in some, I thought, was pale; but beyond this no further peculiarity (if a peculiarity it be deemed) was observable.

State of the diseased Limb.—On the removal of the skin from the hind extremities, I at once observed a difference in the colour of the exposed structures. The fascia of the diseased limb was covered with a yellow coloured fluid, not unlike as though the tissue had been coated over with a quantity of bile, or very yellow serum. On cutting deeper, I perceived the areolar tissue to partake of the same colour, and a yellow liquor exuded from it: the tissue itself was also changed; it was dense, thicker, and partook more of a fibrous character than natural: this change was observable in all the areolar tissue of the limb, at least all that I examined. The lymphatic glands were greatly enlarged; and on cutting into their substance, the knife met with considerable resistance. A scirrhus structure was exposed, the yellow fluid flowed forth in abundance, and on carefully exposing the vessels

which terminated in the glands, and slitting them up, the same kind of liquor was liberated; the internal surface of the vessels presented, here and there, patches of a light red colour, and on comparing the vessels with those of the other limb, they were without doubt larger—many of them, in short, were double the size in their caliber.

Respiratory Organs.—The air-passages were all normal—the lungs bulky and capacious. The right lung was adherent, to a small extent in two places, to the pleura; which adhesions were most probably formed when the animal laboured under pneumonia in 1839. Some portions of this lung were also impervious to the air: such portions, however, were not large—they existed along its inferior border; the left lung was perfect in every respect.

Organs of Circulation.—The heart, when divested of all its vessels and as much of the extraneous fat as I could cut away, weighed exactly nine pounds eleven ounces avoirdupois; its pericardium, cavities, and valves were all beautifully perfect. I slit open the coronary, the thoracic, abdominal, iliac, and femoral arteries; but found not the slightest change in their internal surfaces.

Brain and Nervous System.—The head and a portion of the neck I had removed from the trunk, to enable me to make a more careful dissection of it; the spinal cord I examined on the spot in a rough manner. I will, however, first describe the state of the brain, and notice the condition of the spinal cord afterwards. The brain, when exposed, presented to the touch a moderate degree of firmness; but its colour was that of pale yellow (a pale straw-colour, in fact), more or less deep throughout its whole substance. Its hue I observed to be deepest on exposing what Mr. Percivall denominates the “centrum ovale.” The interior of the lateral ventricles were of the same tint: they did not contain any fluid, and the plexus choroides in both cavities were of a pale dirty brown. The plexus of the right ventricle contained a portion of gritty matter: these structures altogether were small from what I have seen them, and what I should expect to find when normal. The cerebellum was the same; and the cellular tissue which lay around the base and posterior part of this organ also contained gritty matter. The colour of the medulla was paler than that of the brain, and this pale colour was present through the whole length of the spinal cord; and I did not think the cord so firm in its texture as it ought to be; but of that I will not be positive—certainly it varied in this respect in different parts. I also examined some of the large nerves, but failed to detect any thing peculiar about them, save the optic nerves, which were the colour of the brain—the retina the same. The chief peculiarity I noticed,

however, was in and about the "*circulus arteriosus*." The areolar tissue around these vessels contained further deposits of gritty matter, and the caliber of some of the vessels was quite obliterated, the obliteration being caused by depositions of this substance, which was of a grey colour, and very dry, or free from moisture. The coats of the vessels, too, were changed, the proper fibre was not present in such quantity as it should have been: in short, a kind of crystallization appeared to be going on, filling up the arteries, and preventing the flow of blood to that important organ of life, the brain.

Remarks.—The remarks which I have to offer upon the case now presented to the Reader will naturally divide themselves into two orders or kinds. I have first to consider the disease with which the animal was seized upon the 26th of May, 1843, and the morbid appearances to which it undoubtedly gave rise in the limb of the same. Secondly, I have to consider the other disease to which he was occasionally subject, and also the morbid states of the great nervous centres, and endeavour, so far as I can, to explain the relation of such states, in producing the abnormal phenomena observed during the last four years of the life of the horse.

With respect to the first disease, I may observe, that its specific nature does not appear to have been observed by our best veterinary authors with that clearness which it ought to be. Mr. Percivall confuses it with real farcy*—Blaine and Youatt, the same; and this confusion of diseases (which I contend are of an entirely different nature) has given rise in their works to errors of a grave character. The very name by which the above writers distinguish or describe it, is, in itself, so very absurd, that I really am surprised they retained it in works holding the position which theirs did and do. They denominate it "*Water Farcy*"—a name which, if analysed, will be found altogether destitute of any rational meaning. "Our word Farcy," says Mr. Percivall, in his truly valuable work, page 303, vol. iii, "is a modification or alteration of the French word *farcin*, the etymon of which is from the Latin verb *facire*, to stuff;" so that, in plain English, the name "*Water Farcy*" means water stuffed, or stuffed water—a matter in itself so ridiculous as scarcely to merit consideration. I am not ambitious to shine as a coiner of new names for diseases, but the one in question is suggestive of nothing: whether the Profession will adopt the one I have placed at the head of this paper, is to me a matter of no importance whatever; only let us have a name which is suggestive of the specific character of the disease itself.

* In 1844 Mr. Percivall corrected this error. His description of the disease in question will be found in *THE VETERINARIAN*, vol. xvii, p. 396, et sequent.

The disease in question, in its acute states, may terminate either in resolution—when it will gradually subside after reaching its acme, and leave the limb in its healthy state—or it may terminate in what I denominate *chronic lymphatitis*, i. e. when the limb affected remains permanently enlarged, and which of these states may supervene appears to depend altogether upon certain peculiarities in the constitutional energies induced by age. When the animal affected is aged, the limb very rarely, or, perhaps, never, subsides to its original size, but remains permanently thickened, and generally very much so; *why* such is the fact, does not at present admit of a ready explanation: we require more facts, furnishing us with the actual tissues involved, and state of the parts diseased at different ages.

In the present case, not only were the lymphatic glands and vessels diseased, but the cellular tissue of the limb was extensively implicated likewise. Perhaps, in young horses the glands and vessels only are affected, while in aged subjects the areolar tissue partakes of the change as well; but it is useless to offer any hypothesis upon the question—let every one in the profession at all desirous of its advancement investigate more into its nature, and furnish facts to found a true theory upon.

Its *Predisposing Causes* are sufficiently simple, in nearly all cases, to admit of a ready explanation. The chief are, peculiarity of breed—the regular giving of very nutritious food in too great an abundance—previous attacks of the same disease—old age, and the sudden changing of the animal from a poor to a rich diet.

The *immediate or exciting Causes* are, heavy blows upon the limbs, severe scratches, cuts, sudden over-exertion, the working of the animal in water or very wet ground—the sudden checking of old discharges from diseased limbs, such as grease, bad thrushes, &c.—allowing the animal to stand in cold draughts when perspiring freely, or checking the perspiration suddenly by riding him into a stream of cold water.

The disease frequently, perhaps always, commences with a shivering fit, which is speedily followed by the train of symptoms described, though perhaps not always of so severe a character. It generally reaches its acme in from twenty-four to forty hours after its commencement. Heavy draught horses are the most predisposed to its attacks. I am not aware whether thorough-bred animals are ever so affected; but hunters, hackneys, and carriage-horses are all more or less liable, particularly when other predisposing causes are favourable. Its attack is generally very sudden; and a great peculiarity of it is, that it most commonly manifests itself in the left hind limb. I have memoranda of eighteen cases; the subjects of sixteen of them had the disease in the left hind leg, and two in the left fore leg. Mr. Percivall says, “it occasionally”

attacks "all four legs;" that its terminations are "very apt to be true farcy;" and that "now and then it will run into a virulent attack of grease*." Now, my experience hitherto does not confirm any one of these statements. I have never seen a case where all, nor yet two, of the limbs were actually affected at the same time; but I have known one hind limb to be so acted upon, and then the other immediately upon the recovery of the first; and in one case the disease began in the left fore leg, which recovered, and was followed by its development in the hind extremity of the same side. I scarcely think that a disease so acute in its nature as the one in question could be so general, or act over such a large extent of surface at once; nevertheless, I am not prepared to totally deny the possibility of any such thing. Again, with respect to its terminating in farcy, I have simply to state, that I never yet knew such to be the fact: it is altogether different in its nature from true farcy, and different also in its terminations; neither did I ever know it to be succeeded by a "virulent attack of grease;" but I have known it produced from suddenly checking the discharge from a greasy limb of long standing, and to disappear upon the renewal of such discharge. I might enlarge yet further upon this matter, and state a variety of results which I have obtained in my observations upon this peculiar disease, but for the present I will refrain from so doing, as I intend, at some future time, to devote a paper entirely to its elucidation. I shall, therefore, proceed to the consideration of the last part of our subject, and close this already, I fear, too lengthy contribution.

Megrims is another disease respecting which very little is known beyond its mere externalities. The *causes* which produce it do not appear to have been sought into with that care and energy necessary to establish its true pathological conditions. Mr. Percivall says that "the pathology" of this disease "remains undeveloped;" any facts, then, which tend to its elucidation in any particular, must be regarded as an advance into this intricate question. The facts which I have contributed in the present case are of that nature. The state of the brain, and more particularly of the arteries situated at the base of that organ, prove most unquestionably what were, or rather what was, the immediate or excitant cause of the vertiginous fit. The canal of the vessels being obliterated, prevented a sufficiency of arterial blood from going to the brain; and when the animal was over driven, the brain not receiving the necessary stimulus to maintain the extra call upon its powers, giddiness and coma rapidly supervened, and consciousness was only restored after the animal power and circulatory organs were allowed to settle to their previous regu-

* See Mr. Percivall's admirable work, vol. i, pages 322 and 324.

larity. Many who have written upon this disease attribute the cause, some to one thing, and some to another. Mr. Youatt says that it results from "an unusual determination or flow of blood to the brain;" but, as usual with him, he offers no kind of proof beyond the mere statement. This I know to be a prevailing notion, and one which I conceive to be very erroneous. I have sought in vain for facts in support of it. I do not believe that such can be proved to be a cause of the disease in any way; neither can it be shewn that any power or force resident within the organization of the animal could propel more blood to the brain at one time than it receives naturally; but even admitting such to be the fact, we, after all, are only at the surface of the matter; we want the *cause* of this "unusual determination," and about this Mr. Youatt never alludes—most probably he never conceived of such a thing. It is at times amusing to read the opinions of some individuals respecting the seat and causation of disease, particularly the opinions of those who are narrow and restricted in their views upon the matter.

In the *VETERINARIAN* for December 1848 is a short paper upon megrims by Mr. Samuel Baker, V.S. of Chelmsford, wherein he says "I feel quite satisfied, from the symptoms I have observed of megrims, that the brain cannot be the seat of the disease;" and in the next line he again observes "that the eye is the part affected, and that the rays of the sun is the cause." Now, to say that the brain cannot be the seat of the disease, is to talk nonsense; that it may not be affected in all cases is perhaps barely probable. I quite agree, however, with Mr. Baker, that when animals are attacked at times with fits of this nature, when they are in harness and upon the road during hot weather, or by moonlight, when snow is upon the ground, that the light of either, reflected from the blinkers into the eye, might cause such an attack. Under such circumstances I regard the fit as precisely analagous to the mesmeric state; but the brain in such a case will most unquestionably be the organ most affected; the peculiar action of the eyelids during the fit which he speaks about are dependant upon other and far different influences, which to fully explain upon the present occasion would not only be tedious, but out of place. Megrim, then, like almost every other disease, may depend upon a number of causes, and these causes, for aught we know as yet to the contrary, may be of an entirely opposite nature, yet alike in producing a similar result. All that we have got to do, then, is to silently observe, and faithfully register what we do observe. We do not want essays upon disease; we require cases honestly observed; for as yet no complete history of any disease has been furnished; and until such shall be done, it is sheer waste of time and waste of material to write treatises, essays, and prize papers.

LAMENESS IN HORSES.

By WILLIAM PERCIVALL, *M.R.C.S. and V.S.*

[Continued from p. 5.]

BOG SPAVIN.

THIS is a misnomer for the disease we are about to consider. Contrary to what might be expected, it has no relation whatever to SPAVIN, properly so called; but has acquired the same appellation, as it would appear, simply from the circumstance of its being a swelling occupying pretty nearly the same situation: the epithet "bog," meaning something that *bends* or *yields*, being prefixed as the antithesis of *bone* spavin, which is a tumour hard and unyielding.

A BOG SPAVIN MAY BE DEFINED to be, a soft, elastic, fluctuating tumour, of the nature of windgall, growing upon the inner and anterior part of the hock joint.

THE MAGNITUDE AND FORM OF THE TUMOUR are, ordinarily, that of the section of an orange, small or large, and prominent, according to circumstances.

THE SITE OF THE TUMOUR is the anterior and inner part of the hock joint, in the interval between the malleolar projections of the tibia, above and more anteriorly than the situation of (bone) spavin.

THE DIFFERENCES BETWEEN BOG AND BONE SPAVINS are, therefore, obvious. Their sites are not the same, their consistencies are different; one being soft, the other hard. And the tumour of bog spavin is broad and extended, while that of bone spavin is comparatively small, and is circumscribed. Other differences of a more important character there are, pathological and consequential, which will become developed as we proceed.

THE CAUSES OF BOG SPAVIN are such as produce windgall in general; to which may be added such as in a peculiar manner or degree operate upon the hock. They may be regarded as divisible into *general* and *local*. Febrile, rheumatic, and general dropsical or œdematous affections, will be likely to be attended with augmented secretion of synovia in the joints of the body in general, and in an especial manner of the hock. But the hock being the joint on which so much depends in progression, any excessive work the animal may be made to perform, or excessive weight he may be forced to carry, will in a peculiar degree tend to stretch, strain, or disorder this joint; so that, while the fetlock joints are the parts upon which work or concussion tell in the fore limb, the

hock joints are the suffering parts, under like circumstances, in the hind limbs. Considerations of the structure of the hock joint, of its situation in the animal frame, of its motions and functions, will satisfactorily account for its susceptibility to derangement and disease, as compared with other joints of the hind limb; and we shall pretty invariably find that its disorders are prevalent and intense, according as the animal has been over-worked or over-weighted at a tender age, or excessively worked or anywise abused in work at an adult or advanced period of life. Intensity of motion, or any undue stress upon the joint of the hock, tends to create irritation, if not inflammation, in a part so delicate by nature as its lining membrane, the consequence of which is augmented secretion of synovia, producing what we call "bog spavin." Young horses with large joints put to do work or carry weight beyond their strength; heavy-worked harness horses, hunters, steeple-chace horses, racers, and so forth, are on these accounts the especial subjects of bog spavin. And those equestrian movements that throw most stress upon the hocks, such as pulling horses upon their haunches, backing them, suddenly or violently checking or pulling them up, heavy draft, &c., will operate in a peculiar manner in the production of the disease.

BETWEEN THE PATHOLOGY OF BOG SPAVIN AND WINDGALL there is this important difference—that, while windgall has a bursa for its seat, bog spavin consists in enlargement and saccular dilatation of the capsule of the joint itself, viz. the joint of the hock. It will be remembered that the hock is composed of several joints or articulations; but that the principal of these is the one between the tibia and astragalus, which, in consequence of its being that through which the motion requisite for progression is mainly carried on, commonly goes by the appellation of *the* hock joint; and this joint it is which is the seat of bog spavin. Inordinate stress or motion of this joint, as has been already observed, has a tendency to produce irritation of its delicate lining membrane; and this, once set up, is productive of augmented synovial secretion in it: the effect of which is, first, distention, and subsequently dilatation, of the capsule of the joint. In place of from three drachms to half an ounce of synovia, which is the quantity usually found in the joint, in this anormal condition of it from two to three ounces, and even more, will frequently be found to be collected: in fact, the joint may truly be declared to be in a *dropsical state*. Under such increased pressure the capsule of the joint gives way; and those parts of it which are weakest from want of support externally give way the soonest, or in other words *bulge*, and form tumours visible through the skin. The part of the capsule the most likely to bulge, not only from its being a part embraced by ligament or tendon,

but likewise from its being a dependent part, and one against which the accumulated fluid is thrust by the mere weight of the animal, is the inner and anterior part of the hock joint; the site, in fact, of bog spavin.

The saccular dilatation of bog spavin once produced, there is no chance of the restoration of the capsule to its original contracted state; on the contrary, Nature sets about making additions to it in order to guard against the consequences of its dilatation. Attenuated as the capsule has become through its extension, and immediately underneath the skin as the dilated sac now is, there seems danger, not only of its giving way, but of the common integuments even doing so; and, therefore, is a process of thickening and strengthening set up in the parietes of the sac, by which, in the course of time, they grow from less than an eighth to more than a quarter of an inch in thickness; nay—as we have witnessed them—to three-quarters of an inch in density.

In the generality of cases this may be said to be the termination of bog spavin, little else than accumulation of synovia and thickening of the dilated sac appearing to take place. This accounts for lameness being unheard-of in bog spavin in its ordinary form: cases, however, occur in which disease proceeds further—or rather commences, for, so long as ordinary bog spavin continues in *statu quo*, it can hardly be accounted disease—renewing its attack on the joint as well in regard to its secretion as to its lining membrane. Mr. Pritchard (in his excellent remarks on the subject in THE VETERINARIAN for last month) informs us he has discovered alterations to have taken place in the synovial fluid secreted under such circumstances, as well in thorough-pin as in bog spavin. “The fluid,” he says, “becomes highly charged (first) with cartilage, then with calcareous matter; and the whole tumour of the hock becomes converted into ossific substance, of which I have a very large and excellent specimen. The first change in the synovia is in the increase of its albumen; then cartilage appears, most commonly in the form of cotton threads from one to two inches in length, perfectly white, resembling fine needle-like worms, floating in the thick deep-coloured synovia. These threads increase in number and size; then comes the calcareous matter, and perfect ossification is effected in regular spherical masses; and in one case, of which I made a particular note, I was surprised at the early period of the disease at which these threads of cartilage appeared, and in considerable numbers.”

In respect to the lining membrane of the joint, we have observed its smooth glistening surface to lose its transparency—to become, first opaque, then deadly yellow in aspect, and, finally, to present a surface uneven, rugged even, in consequence of being studded

with exudations of coagulable lymph in a state more or less advanced towards assimilation to the altered condition of the membrane itself. Sometimes, in a more advanced stage of disease still, the membrane exhibits a sort of fibrous or reticular character, having running over its surface slender bands or cords of considerable toughness, disposed after a manner to form so many little meshes or pouches upon the membrane. Within the cavity of one bog-spavined joint we examined, lodged in the upper and posterior compartment of it, we found a small parti-coloured ovoid body, in appearance not unlike the pineal gland of the brain, though not above half its magnitude, secured in its situation by slender cords of the same description as those first mentioned. The substance being cut in half, nought was found within it but some loose soft tissue resembling a mass of condensed cellular membrane.

In some comparatively rare instances the thickened capsule of the joint, after the continuance of bog spavin for some length of time, becomes slowly converted into a solid and hard substance of the nature of *callus* or cartilage, and this, in the progress of the morbid action, changes into osseous substance; transformations which, as we have seen, Mr. Pritchard regards as taking place in the secreted fluid of the joint. This ossific action may, however, not confine itself to the region of bog spavin, but may extend over contiguous parts, and at last grow into a large spreading ugly tumour upon the inner side of the hock joint.

BOG SPAVIN IS NOT PRODUCTIVE OF LAMENESS so long as it maintains its ordinary form, or, in other words, so long as it consists merely in accumulated secretion and thickened capsule. Nor, in general, is there any reason to apprehend any thing further. Still, every now and then do we meet with cases in which bog spavin is growing into or has already become a formidable disease. Inflammatory action appears to be set up in the capsule of the joint; and those changes in the lining of the capsule, and in its secretion, which have been already detailed, supervening, the disease presents itself to us in the form of a tumour upon the inner side of the hock, spherical in its form, and of considerable magnitude, conveying heat to the feel and tenderness to pressure, which, from its producing lameness, and, perhaps, to a serious amount, peremptorily calls upon us for

TREATMENT. Of what kind, however, will depend upon the state in which the hock is brought to us.

Supposing that there is evidence of inflammation existing in it, even though that be of but an incipient or declining character, blood-letting, in as topical a form as practicable, had better, without loss of time, be had recourse to. We seldom do much good by opening any vessels about the hock for this purpose, and, therefore,

our best practice is either to let blood from the femoral vein, or from the artery circumflexing the toe of the foot. In general, the former is adopted. A dose of cathartic medicine may aid our object. And continual fomentation—with the *spongio-piline* in particular—will do a great deal of good. As soon as inflammation has departed, either a blister or the firing-iron may be brought to bear. In general, the blister will be sufficient. Any tumour, and consequent stiffness of motion in the joint, that may remain after the blister, will be relieved, if not removed, by iodine ointment well rubbed into the enlargement daily; in combination or not with mercurial ointment, according to the judgment or caprice of the practitioner.

QUESTIONABLE DISEASE IN A COW.

By JOHN YOUNGHUSBAND, *V.S., Greystoke.*

Mr. Editor,—If the following short but possibly not unacceptable description of a disease, one quite new to me, contain any thing worth a place in your valuable Journal, please to record it.

Early on the morning of the 4th of December, 1848, I was hastily summoned to attend a cow that had become suddenly ill, having fed as usual the night before, and apparently nothing ailing. On my arrival I found the following symptoms the most predominant; viz., the animal appeared dull and comatose—head and neck stretched out, with the muzzle pressing against the wall—a hard firm swelling extending from the root of the ears to the upper part of the neck and throat, thence downwards toward the sternum—stertorous and difficult breathing, threatening immediate suffocation—whole of the throat sore, the animal shrinking from the slightest pressure—abdomen much swollen, and the bowels inactive—horns and ears cold—pulse scarcely to be felt—with a look expressive of the greatest agony. On beholding the above symptoms I felt myself almost “nonsuited;” but as delay was dangerous, and the animal had already been bled, and that to a fearful extent, I quickly prepared a solution of the chloride of lime to allay the tympanitic symptoms, and which I managed to get administered in a way not unsatisfactory, notwithstanding the beast was nearly incapable of swallowing. I then had the swollen parts well and diligently fomented with water made considerably hot, and that for a length of time; when the belly was wiped dry, and an oily stimulating liniment applied. At the expiration of this time the breathing had become more tranquil, the swelling much softer

and the cow apparently relieved. However, in a short time it became evident the cow was again getting worse. The swelling in the neck was making rapid strides downwards—the breathing becoming much more difficult—ears and horns deathly cold—the abdomen more tympanitic, and that to such an extent that it appeared quite evident it was the precursor of speedy dissolution. At this juncture I proposed using the trocar, repeating the chloride &c.; but upon the whole (she being a valuable fat beast, equal to 14 stone per quarter, of 14 lbs. to the stone) I did not press these remedies, and candidly told the owner that the only means I saw he had to profit by was to have her slaughtered. This statement I strenuously advocated, and, the case being urgent, he immediately complied.

At the time I ought to have had an opportunity to make an examination I was called to attend another patient, so that I can give you little satisfactory *post-mortem* account; nothing, in fact, further than that detailed to me by the butcher,—i. e., all the swollen parts when cut into exuded a thin watery fluid; the windpipe throughout was inflamed; likewise the lungs, with here and there dark patches upon their surface; and, as he thought, the heart was enlarged, and in places discoloured; the spleen smaller than usual. The other parts, he considered, appeared healthy.

My plea for forwarding you the case is this:—In some abstracts taken from *The Veterinary Record* for 1847, sent me by a friend, I find there is a paper by Mr. Wright, V.S., of Burnham Overy, giving an account of a disease among horses, and which he terms “Malignant Sore Throat,” the cattle also being similarly affected, but in them he terms it “Inflammatory Fever*,” with which, however, he appears not to be acquainted. After perusing that paper, it struck me, my case might be something of the same type, though there were in each case symptoms dissimilar. Yet, like Mr. Wright, I am free to confess it was a case quite new to me, since through a lengthened course of practice I never met with any complaint shewing similar symptoms. Now, if it be, as termed, a “malignant” complaint, then I am far from being justified in advising her carcass to be dressed; but in this let ignorance plead my excuse. And though a north country practitioner, yet, perhaps, some of your more talented correspondents will condescend to review this paper, and put the case in a clearer light.

* I prefer the term, in this case, of “malignant” to “inflammatory,” though there was inflammation, and that with a vengeance.

IMPORTATION OF CATTLE.

[Continued from p. 7.]

By J. T. HODGSON, Finchley.

Sir,—MANY years before the new tariff passed, when abroad, I occasionally saw in the public journals the high prices of horses and cattle were ascribed to the epidemic that had prevailed, without it being stated what the disease was, or how it was caused; or whether it had been more frequent since the practice of bringing cattle from Scotland and Ireland in the holds of steamers.

The Sherborne Journal, however, states “that notwithstanding the treatment of the leeches and the profession, ninety-five out of a hundred died of diseased lungs; but, that now it is ulceration of the tongue and separation of the hoofs;” and on the 11th December an extract of this went the round of the London journals as another new disease among *cattle* “*supposed to be foreign* :” which, had the writer described to practitioners in London, Liverpool, Bristol, or any other large city, he would have found was known to them as an old disease among *cowkeepers’* cows, and as much English as foreign. The advertisements of almanacs have, too, the “*new disease among cattle*” as a puff.

Under these circumstances (though I had intended to have dropped the subject when I had given the caution), I feel justified in going on with my story. I may thus elicit that from your numerous and abler correspondents, who practise among cattle, more valuable statistical information than I can give.

* * * *

As we passed along the Elbe strand, the farmer’s eye caught a glimpse of the barges of wheat that was soon to become custom-house corn in his own country. On the right was the pen of oxen, cows, and sheep, for the same destination. Now, how much, says he, might be the price of some of these old cows? From £2 to £3 each.—At what cost have they been fattened in the marshes here? From April to November (30 marks), less than £2.—Zounds! says he, that is *unfair* to us, £1 for freight, a trifle for commission, and charges. He was in a passion; but his friend reminded him of his Manchester goods, which they *might* take in exchange. He, no doubt, was sanguine; it was not my place to make him otherwise. Now there is not a veterinary surgeon on that jetty to examine the thorough-bred colts and fillies imported for Count St. ———; he would be in a wrong position. Some days after they may meet the district veterinary surgeon, when, if any discharge at the nose, he will say to the groom (der Rotz) the glanders:

he will seize the colt, giving the groom the price of the skin only, or little more. While this is going on the shinder's* man may throw a noose over the neck of that gaunt-looking greyhound whelp, and will strangle him. Well, the groom may write how he had lost the colt by Free Trader out of Conservative's dam, and how the career of the untried puppy had been cut short. The exporter begins to feel queer about the proceeds; but the Count is a man of honour, is aware of the law, and sends a bill of exchange for the full amount.

Now, suppose a German dealer to go over with twenty black Holstein horses for Her Majesty's 1st Life Guards. These horses have no local disease, *though they may have fever*. They pass, of course, the English Custom-house inspector; but, a few days afterwards, the veterinary surgeon rejects several for glanders (he has no further power, like the continental district veterinary surgeon), but he kindly recommends the dealer to destroy them. Instead of doing so, he sells them in Smithfield. Those with acute glanders are slaughtered, but those locally affected (or chronic glanders), as the condition of the animals remains unimpaired, may be recognised by the gentleman who rejected them in various situations, outside the rout, play, and opera-house, or drawing the hearse with free traders and protectionists to that place where they "do not eat, but are eaten." Their proprietors (we will say nothing about the morality of it) knowing the possibility of contagion, take the precaution to work these horses with the affected nostril outside, that it should not contaminate his partner; never mind if it does the horses of others, lords or commoners. Carriers, canal barge-owners, and colliers, have been known to keep such horses: in the two last situations it is least objectionable.

At the beginning of the present century, Monsieur De l'Etang kept a riding-school and repository at Calcutta. Horses were very scarce. Two ships arrived at the mouth of the Hooghly from Bussorah with Arabian horses. Monsieur thought he would make a good speculation; down he went, and examined every horse—they had neither farcy nor glanders. Up he came; he had a fixed balance in his favour at his agents, he borrowed the money at higher interest than he received, he paid for the horses. From that moment he was a ruined man. The ships came up to Calcutta with the tide: the horses were landed; *all of them* were either farcied or glandered. The loss to Monsieur was two lacs of rupees (£24,000) by *ship fever*.

Now Monsieur De l'Etang (like most foreign riding-masters) had a little veterinary knowledge, but, from the above transaction, it certainly never entered his head that a febrile stage preceded

* The shinder and district vet. in my next.

what is called farcy and glanders, or, as his own *veterinary inspector*, he would have waited at least from five to eight days after the horses had been landed before he had purchased these horses.

In like manner, cattle and sheep brought in the hold from Scotland, Ireland, or the Continent, may have passed the Custom-house veterinary inspectors at the different ports of England with *fever* upon them. All have not been fat, and to be killed immediately; some have been store cattle, and fattened in our marshes, or in the stall; but, whether or not fever has been produced in this manner, and contagion afterwards from the matter of the local disease, I leave for those veterinary surgeons to determine who have been in country practice.

I do not know if the Custom-house veterinary inspectors examine cattle and sheep that arrive by steamers from Scotland or Ireland; but we shall get returns of the numbers imported from the Continent, and that only "*one sheep*" was diseased. But how do *they* know what has happened afterwards? There are no district veterinary surgeons to give a statistical account of *that*. Through the medium of your excellent Journal, and from your able country correspondents only, shall we obtain correct knowledge upon these points, as it is those gentlemen only that have had opportunities of seeing these diseases in the marshes—in the homesteads.

The fairs and markets are not places (although here they are occasionally seen) to look for diseased animals, excepting horses in England; and why this should be allowed here more than on the continent of Europe requires some explanation. This difference in the veterinary jurisprudence of ours and other countries is antecedent to the new tariff; but whether or not we have suffered by our temerity in respect to infectious and contagious diseases, my professional brethren will best determine. I can write only on diseases as I have seen them abroad. In your Journal (which I have only seen occasionally) there is difference of opinion on the *infectious*, though none on the contagious nature of the disease I am writing about. The older veterinary writers, if my memory does not fail, believed them to be *infectious* as well as contagious. Professor Stewart, in vol. x, No. 51, writes "Contagion is a fertile source, and I cannot say I have been able to trace the disease to any other."

"In a stud of about one hundred and twenty horses, one came off a journey with the disease. He was kept out of the yard, and he was the only sufferer."



CASES OF DIFFICULT PARTURITION IN THE COW.

By JOHN NELSON, V.S., *Highfield, Sheffield.*

[Continued from vol. xxi, p. 139.]

To the Editor of "The Veterinarian."

Dear Sir,—SINCE cases of this nature often occur in my practice, I send the following, if you think them worthy a place in your valuable journal.

CASE I.—Dec. 28th, 1847, Mr. George West, Gleadless, near Sheffield, sent a messenger desiring my attendance as soon as possible to a cow, which he informed me could not calve, and was in great pain. I accordingly went, and on my arrival, inquiring into the case, I was informed that the cow had shewn symptoms of labour pains for the last six or eight hours, which had much increased during the last hour or two. I asked the owner if she was at the full time for calving; whereto Mr. W. answered me in the affirmative. I next proceeded to examine her *per vaginam*, as no part of the fœtus had appeared externally. On introducing my hand into the vagina, I found one knee protruding into the pelvis, the other fore leg was down in the lower part of the womb; and the head was in the same direction as the fore leg, with its nose inclining backwards; hence its neck was doubled on the lower part of the left shoulder.

I first got up the foot of the leg that was already in the vagina, and secured it by a rope. I next applied my forceps, with rope likewise, in the nostrils, which were just within reach. I then proceeded to get up the other fore leg, by applying my forceps to the dewlap, while an assistant was gently pushing the fœtus to the opposite side of the womb, so as to give room; by which means I was enabled to get it up. Having now roped both fore feet, and they being brought into the vagina, the assistant gently again pushed back the fœtus in the same direction with the forceps, in order to give room for the head to be brought up: I at the same time gently drawing at the cord attached to the forceps in the nostrils, by which means the head was brought forward in its proper place. The forceps were now released from the dewlap, and force was applied to the ropes on the feet and nostrils, in which manner the fœtus was extracted in a few minutes; and though life was not quite extinct, it died in about five minutes after extraction. A dose of aperient combined with fever medicine was given for a few days, when the cow recovered. The time occupied was forty-three minutes.

CASE II.—March 15th, 1848. Mr. Garratt, Ran Moor, near Sheffield, wished me to go and see one of his cows, which, he informed me was, he thought, going to calve, and all did not appear right. On my arrival, examining the cow *per vaginam*, I found the foetus had been dead some time. The hoofs came off with the least touch. It was a head presentation : the fore legs being both down in the lower part of the womb. The external parts were not well prepared. In fact, from inquiry of Mr. G., he informed me the cow appeared more prepared for calving a week ago than at the present time, both in her udder and other parts. The head had, as yet, scarcely entered the pelvis, and there was but little room for the hand to pass to get up the legs. I first applied my forceps, with rope likewise, in the nostrils, to secure the head. I then applied my rod forceps firmly to the lower part of the throat, while an assistant gently pushed back the foetus. This gave me room for getting up the fore legs, which was soon done, and as soon roped. I now applied soft soap about the foetus, likewise to the vagina and womb, as far as I could reach. Force was then applied to the ropes on the legs and nostrils ; but with no avail, for the parts appeared so contracted that to extract the foetus without the use of the knife seemed certain death to the cow. Embryotomy was, therefore, resorted to at once. The foetus was again gently pushed back into the womb. I then took my bistoury, and ran it up one fore leg as high up on the shoulder as I possibly could reach ; with my thumb nail I now pushed out the blade, and thus opened the skin from the shoulder downwards, to a little below the knee ; at which place I cut round the leg. The whole of the limb was then skinned as far up as possible, by taking hold of the lower part of the skin, and pushing the fingers of the right hand underneath and around the leg. The knife was then applied as much as possible between the shoulder and the chest. Next, force was applied again to this leg, whereby it was easily drawn out to the whole extent of the limb. The other leg was then proceeded with in the same manner, and extracted. An opening was next made into the front of the thorax, and the forceps passed into the chest and abdomen, and the contents of each cavity broken down or brought away. I may here remark, when the chest was opened, such was the extent of emphysema in the foetus, and so great the escape of foetid gas from the external pressure of the womb, that I was obliged for a time to desist, not being able to bear the stench eliminated out of the womb. A good dressing of soft soap was again used around the foetus, and to the inside of the womb, and the forceps were applied on the lower jaw. Force was now again used to the rope on the nose, and to the forceps on the jaw, by which means the head was drawn out. The forceps were now removed

from the jaw and nose, and ropes were applied around the neck, and thus by a little force was the foetus extracted.

The cow was afterwards put into a comfortable shed, and a rug thrown over her; a little gruel was allowed, and a gentle dose of carminative medicine was given daily for six days, at the expiration of which time the cow was convalescent.

CASE III.—September 28th, 1848, I was desired to see a cow belonging to Mr. Ibberson, Brightside-lane, near Sheffield, which had exhibited labour pains for twelve hours, and was at her full time. No part of the foetus was to be seen externally. The cow did not exhibit very acute pains, and was tolerably prepared for calving. On examination, I found it to be a breech presentation, with the hind legs down in the left side of the womb. I applied my forceps to the loose skin about the perineum, while an assistant gently pushed back the breech into the right side of the womb, to give room for getting up the legs, the hocks of which were soon brought well into the passage. The forceps were then released off the perineum, and applied lightly on the hock joint. Next, I took hold of the hock-joint where the blades of the forceps had hold, holding them within my hands, and gently pushing the hock into the right side of the womb, as far as possible. I now directed the assistant to close the forceps firmly on the hock, and hold them where they were. That done, I left hold of the hock, running my hand down the leg to the foot, which I grasped firmly. I now directed the assistant to release the forceps, whereby the foot was brought at once into the passage. The other leg was treated in the same way; and then both hind legs were roped, and force applied to them; and in twenty minutes from the first commencement the calf was extracted. I ordered a cloth to be thrown over her, simple diet given for two or three days, leaving a dose of medicine, as before, to be given in an hour, and another the next day; and I told them to let me know if she did not go on right. I was informed in a few days after that the cow was “doing well.”

CASE IV.—August the 6th, 1848, Mr. J. Smith, senior, Banner Cross, near Sheffield, desired my attendance to a cow which, he informed me, was calving before her proper time. On my arrival, I found one of the fore feet just in sight. On inquiry, Mr. S. informed me that the cow was within about a month of her full time of calving, and had dropped a calf six days ago tolerably easy; but since that time had not appeared well, though she had not shewn any symptoms of a second calf until the present day. On examination, one fore leg of the foetus was found in the passage, and the other, with the head, was down in the right side of the womb. The entire body was in a high state of emphysema and decomposition. I adopted the same method as in the other cases, in

getting up the leg, and taking both legs off, and opening the chest, excepting the head, which I brought up by applying the forceps to the lower jaw, taking care to apply plenty of soft soap before using any force. The head of the foetus was now drawn down by means of the forceps attached to the lower jaw, so as to allow a rope to be put around the neck. This being done, gentle force was applied to the ropes, when, in a little while, the calf was extracted. The same treatment was directed as in the last case, and a dose of the same medicine ordered to be given daily until the fourth day, when I left her to the care of the owner. Some time after he informed me the cow did very well.

INFLUENZA IN HORSES.

By Mr. G. H. DARWELL, V.S. Cheetham-hill, near Manchester.

HAVING the care of a large coach establishment belonging to Messrs. Greenwood and Turner, of this place, where there are upwards of one hundred and fifty horses kept, I have an opportunity of seeing the various diseases to which this animal is subject, particularly one which has been very prevalent indeed, viz. influenza. This disease generally presents itself where there are a large number of horses congregated together in one stable, and especially where there is a want of ventilation. The air of such stables becomes heavy with animal emanations, and there is seldom any means of obtaining a current of pure air. In such stables, therefore, the animals are constantly inhaling the floating miasm, which irritates that most sensitive structure the larynx, and its poisonous influence shews itself in the development of the above malady. It is not that alone, in my opinion, that is the harbinger of the disease; but the severe exertion they are put to, and from oftentimes when in a state of profuse perspiration having to stand exposed to the most inclement weather. These are, I believe, the chief predisposing causes of this malady.

SYMPTOMS.—Sore throat, increased pulse, hot, dry mouth, dull and languid countenance, head drooping, short dry cough, eyes half open, and very watery; together with a slight discharge from the nostrils; and if you apply the least pressure to the larynx, there is immediate coughing. But there is one symptom which is rather singular, and that is, glandular enlargements appear in the vicinity of parotid glands, and sometimes they present themselves between the jaws, as if the animal was labouring under strangles. These tumours grow to an immense size, and ultimately suppurate; and when exit is given to the imprisoned pus, it continues to

escape in a regular stream. In fact, I have had two or three cases where these tumours have been as large as foot-balls; and when they were opened, pus escaped from them with as much force as if you were forcing it out with a syringe. Immediately the matter escapes, the animal gains relief. These glandular enlargements are the earliest and most characteristic symptom of the disease.

TREATMENT.—If the patient be in good condition, and feverish, abstract blood to the amount of three or four quarts, and administer the following:—Aloës Barb. 3ij, digitalis pulv. 3j, nit. potass. 3j, lini farinæ et theriac. q. s. ut fiat bol. The liniment ammoniæ et terebinthinæ is to be applied to the glands, so as to induce suppuration; afterwards the animal's legs are to be placed in hot water, and bandaged; a hot bran mash is to be placed before him, and his body to be kept moderately warm by means of clothing. This mode of treatment, together with a little attention to the animal's comforts, ultimately recovers the patient. But the glandular enlargements are very often a long time in suppurating, during which time the disease seems at a stand-still, thereby causing great prostration of strength. But when the pus is evacuated, and the orifice kept open by means of a pledget of tow, the horse gains strength rapidly. This disease, in my opinion, is infectious; for when I have placed a horse under treatment for lameness in the same stable as those labouring under influenza, he has shewn symptoms of it two days after his admittance. It seems to attack old and young, and it is now, at this present time, making great ravages; and I have no doubt but what the whole stud will become the victims of it.

CORRESPONDENCE ON THE SUBJECT OF RABIES IN COWS.

To the Editor of "The Veterinarian."

Dear Sir,—THE following is what has appeared in one of our country papers about some cows that I attended.

Your's obediently,
W. Cox, V.S.

"Mr. Bonsall, of the Westside, near Alstonefield, has lost six cows in a very distressing manner. Mr. Cox, Veterinary Surgeon, of Ashbourn, has pronounced them to have been rabid, caused from the bite of a mad dog. The mischief is supposed to have been done by Mr. Bonsall's own dog, as it disappeared about two months ago, and has not been heard of since."

"In the *Advertiser* of the 10th instant it was stated, that Mr. Bonsall, of the Westside, near Alstonefield, had lost six cows, which had died in a rabid state, caused from the bite of a mad dog. Mr. Bonsall has requested us to contradict the assertion made with respect to the cause of death. The paragraph was sent to us by the veterinary surgeon who was called in."

To the Editor of the "Derbyshire Advertiser."

"Sir,—I will thank you to contradict the statement put forth in your last week's paper—that Mr. Bonsall's cows were not rabid. I attended three of the animals, and made a post-mortem examination of one of them; these three were decidedly rabid, and I was informed the other three which he had lost were like them.

"Yours, &c.,

"W. Cox,

"Member of the Royal College of
Veterinary Surgeons, London."

(Advertisement.)

To the Editor of the "Derbyshire Advertiser."

"Sir,—I again wish you to contradict what was published in your paper of the 1st instant, respecting my cows being rabid. It is a fact that Mr. Cox attended three of the cows, and made a post-mortem examination of one of them, being the second which he had attended, and the fifth which I had lost; and he stated at the time of examination that the cows had died of inflammation of the brain and spine of the back, caused from being maw-bound. I sent for Mr. Cox to attend the sixth cow, and he then said he was very suspicious they had been bitten by a mad dog, and, if so, medicine was useless; and he said he had never seen a mad cow if they were not mad. A mad dog has never been seen or heard of in the neighbourhood.

"What was a sufficient proof to me and my neighbours, I had one cow most severely afflicted of the same disease, and after being treated according to the manner Mr. Hudson prescribed, she has recovered. I fetched Mr. Hudson to the same cow which Mr. Cox represented to be mad, and he saw her alive, and made a post-mortem examination on her, and, eight persons being present, they were all perfectly satisfied that the cow's death was caused by inflammation on the small intestines; and I am certain they have all died of the same disease.

“Mr. Hudson has written to me to certify that he had attended the cow, and the contents of his letter I wish you to publish also.

“From yours, respectfully,

“JOHN BONSTALL.”

“Westside, Alstonefield, Staffordshire,
December 15th, 1848.”

“Dear Sir,—This is to certify, that I attended a beast of Mr. Bonsall's, of Westside, near Alstonefield, on the 5th of November, which died in about two hours after my arrival. On the following day, November the 6th, I made a post-mortem examination, and found that death had been caused by inflammation of the bowels: there were no signs of rabidness, either before or after death, as I found both the brain and the spinal marrow in a healthy state.

“Yours, &c.,

“E. HUDSON, Veterinarian.”

“276, Shales Moor, Sheffield,
December 12th, 1848.”

(Advertisement.)

To the Editor of the “Derbyshire Advertiser.”

“Sir,—Your readers may think it somewhat strange, after what I have previously stated in your paper, that Mr. Bonsall, of Westside, should still persist that his cows were not rabid. It appears that after I had seen his last cow, and decided that the three I had attended were all rabid, he sent for a person from Sheffield, in Yorkshire, a Mr. Hudson, to examine his cow. This person is not a veterinary surgeon, but a cowleech; his name is not on the list of those who have passed the veterinary colleges of London or Edinburgh. I have been informed, however, that he obtained his knowledge of doctoring in the army; but I should like to know which of her Majesty's cavalry regiments are mounted on horned cattle. After the death of the sixth cow (the third which I had seen) Mr. Bonsall took all the remainder of his cows to Lenton fair, in Nottinghamshire, and sold them, in the face of my statement that they were rabid. I never gave any definite opinion as to what was the matter with the first cow, Mr. Bonsall being from home at the time when I saw her, which was only once. The second cow which I saw (the fifth Mr. Bonsall lost) was evidently in the last stage of the disease when I was called in: she was immediately destroyed, and I afterwards made a post-mortem examination of her. There was no inflammation of any of the internal viscera, nor constipation. I have opened many a mad dog, and the post-mortem appearances were analogous. I requested Mr. Bonsall

to send for me instantly, if he had any of his others taken, and not long passed before I was called upon to attend his sixth cow. In comparing the symptoms of the three I had seen with the post-mortem appearances and the accounts they gave me of the others I had not seen, I decided at once, without any hesitation, that the animals were all rabid, arising from the bite of a mad dog, and I still maintain that opinion. On making inquiry, I found that Mr. Bonsall's own dog disappeared about two months before the first cow went mad, and Mr. Bonsall himself told me that the dog was in a curious way, turning round and round, &c. just before he was lost sight of: and, besides, I am prepared to prove that there have been several mad dogs in his neighbourhood during the last summer and autumn. Mr. Bonsall is in error when he says that he has had one cow recovered that was in a similar state to the others, for they were all sold soon after the death of the last cow, at Lenton fair or elsewhere.

“ Your's, &c.

W. Cox,

“ Member of the Royal College of
Veterinary Surgeons, London.”

“ Ashbourn, Dec. 27, 1847.”

“ P.S.—One of Mr. Bonsall's horses went rabid on Sunday last. He was first perceived in the morning to be unwell, and was put into the stable, when, as I am informed, he abandoned himself to the most extreme violence, jumping into the manger, jumping and worrying at every thing that came near him, &c.; even eating his own dung, which a horse never does unless he is rabid. The animal was then let loose in a field, where he again abandoned himself to the most extreme violence, until he fell down exhausted. In this state I saw him between three and four o'clock: I was accidentally passing at the time. Although about thirty yards off, I could see him worrying and tearing up the ground with his teeth, and struggling and fighting with all his might. On my return, which was about half an hour afterwards, I dismounted and went over, but I found him destroyed. To-day I have been past again, when I saw them about burying him. I went to the carcass, and from what I saw of the dead animal, and what I have stated above, I have no hesitation in saying that this animal was rabid.

“ W. Cox, M.R.C.V.S.”

Mr. Editor,—The above terminates the affair between Mr. Bonsall and myself for the present. I have sent it you exactly as it has appeared in the “Derbyshire Advertiser.” If you think it worth bringing before your readers, the following is an account of the symptoms and port-mortem appearances of these cows:—

Symptoms.—The animals first appeared dull and languid, the appetite lost, and rumination rarely performed. The pulse was much quickened; the animals had a peculiar melancholy appearance, once seen not easily forgotten. They drank a little water during the first two days. Upon being in the least excited either with the shake of my coat, or a sudden shuffle with my feet in the straw, &c., these cows would set up one of the most dreadful bellowsings I ever heard. On removing Mr. Bonsall's last cow from the cow-house into an open box, she instantly lay down; but she had not been down long before she sprang upon her feet again in the most astonishing manner, as if some one had thrust a dagger into her, when she made one of those dreadful noises above described. I began to make my way to the door, but was told she would not hurt me, as they had all been like this one, staggering about like a drunken man: this was succeeded by complete palsy on the second day, more particularly the hind parts or extremities. There was also present a violent and painful attempt to void the fæces and urine, so much so that the animals would bellow out during the effort in the most distressing manner. Those animals which were not destroyed died on the third day from the first attack.

Post-mortem appearances.—The internal viscera of the cow which I examined were generally healthy. There were spots of ecchymosis upon the mucous lining membrane of the bladder, and a slight inflammatory blush upon the mucous surface of the urinary passage generally; there were also spots of ecchymosis upon the lining surface of the heart. The mesenteric veins were much congested with blood of a peculiar blue colour. The pia mater covering the brain was of a darker colour than natural.

Your's most respectfully,

W. Cox, M.R.C.V.S.

Ashbourn, January 10, 1849.

YEW POISONOUS TO CATTLE.

By GEO. HORSFIELD, V.S.

To the Editor of "*The Veterinarian*."

Sir,—I HAVE often heard it stated by farmers, and also by some veterinarians, that *yew* in a *green* state is not poisonous to cattle; but I beg to state that I have made a minute examination of two cases which prove the contrary to be the fact.

Mr. John Firth, farm bailiff to Earl Fitzwilliam, Wentworth House, requested me to accompany him to examine two Scotch oxen which had been found dead in a pasture amongst thirty-four others. I did so, and found a quantity of *green yew* in them, which produced the following effects, and caused death. The lesions:—All the principal viscera of the thorax and abdomen presented a highly inflamed and abnormal appearance; the rumen and reticulum were loaded with ingesta, and yew was mixed with it, as it had been cropped from the trees; the folds of the omasum were fixed, and, when separated, the mucous membrane was left on the intervening matter; the rumen and reticulum were also the same: the abomasum and bowels were empty; and the anus was prolapsed or inverted, and very bloody.

I went to the pasture and examined the other cattle, and found a third bullock shivering and hoven, evidently labouring under indigestion, which produced much pain. We attempted to drive him to the farm-yard, rather more than a mile distant; but when we had proceeded about three-quarters of a mile, he dropped down, and was seized with two severe spasms, which I thought would terminate his life; but after a time he rallied, and we got him under cover, when I gave him magnes. sulphas. and ol. lini in effective and well-timed doses, which evacuated the stomach, restored healthy action, and he is now well. If you think this communication will be of any service to your veterinary and agricultural readers, it is at your disposal.

I am, Sir,

Your's obediently.

January 17, 1849.

To the Editor of "The Veterinarian."

Sir,—I HAD neither thought nor wished, when I penned the concluding remarks of the letter I sent you on the 11th November, that I was to afford Mr. Cherry pretext for taking up three pages of your valuable Periodical to so little purpose. My intention simply was, to give expression to an opinion which I know to be prevalent among the country members of the veterinary body, in regard to the change which has happened in Mr. Cherry's views about registration. If I was wrong, why not say so in as many words, and have done with it? None would have been better pleased to find themselves in error than those who, along with me, feel disappointed at the result of the registration scheme. In regard to Mr. Cherry's self-laudatory letter, I have nothing to say, simply

because it proves nothing ; and I have too much regard for the usefulness of your Journal to occupy its space with silly insinuations or acrimonious personalities. I shall not, therefore, ask any room for reply, however many ill-natured things Mr. Cherry may be pleased to say about me ; but am, Sir, your obedient servant,

M. CUMING.

Ellon, January 17, 1849.

REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—Hon.

DE LA CONFORMATION DU CHEVAL, *suivant les Lois de la Physique et de la Mécanique*. Par M. A. Richard. 1847.

ON THE CONFORMATION OF THE HORSE, *in Accordance with the Laws of Physics and Mechanics*. By M. A. Richard. 1847.

[Continued from page 45.]

THE “GENERAL CONSIDERATIONS ON THE HEAD,” which we are now about to examine, while they afford ample illustration of the philosophical manner in which M. Richard has treated his subject, whereby he has distinguished himself from authors of the same class, serve in a measure to shew what we mean by horse phrenology, and to what important and gainful uses such a science might be put, were it cultivated to the extent to which it offers evident capability.

“The head is the part which to the physiologist offers the greatest resources, not only to enable him to form an estimate of the *noblesse* of individuals, but also of their intelligence, their energy, and their moral character. Is not the horse possessed of physiognomy ? Has he not that expression of eye and of face, that general configuration of body, which will serve as guides to us in the study of his moral and physical capabilities ? Does not every animal offer to the physiognomist a subject for the exercise of his skill ?”

M. Richard deduces from observation this difference between the head and other parts of the body, that while in the head one well-formed part will scarcely exist unaccompanied by an accord of excellence of form in others, in the regions of the body no such

principle holds good. A horse, for example, may have a good hock at the extremity of a powerless haunch, or a fine shoulder with an ill-formed croup; good withers with bad loins; a narrow chest and yet a well connected proper fore limb, &c. Such incongruity, however, is very rare in the component parts of the head. An open forehead will be associated with a fine eye, spreading jaw-bones, dilated nostrils; while, on the contrary, with a contracted cranium we may observe a small pig-like eye, narrow and all but motionless nostrils, approximated jaw-bones. Such constitute a remarkable difference between the head and other parts of the body, and it is one we shall do well to note down, since, although a “good” head is recognised the moment it is seen, and may, to our mind, sufficiently indicate the family or pedigree of the horse, yet does it not follow that other parts of the body are in consonance therewith; and therefore it will be for us at the time, to come to some sort of estimate in our own mind how far “goodness” or intelligence in the one may compensate for want of power or stamina in the other.

“In this physical point of view, as likewise in regard to the intellectual faculties, the head of the horse offers to our notice comparisons with that of man as well as with those of other animals. The development of intellect in general keeps pace in vertebrate animals with the proportion borne by the cranium to the face, and especially is this found to be the case in those mammiferæ which we have had the best opportunities of studying. * * * The heads of Negroes and Hottentots have a nearer resemblance of conformation to that of the orang-outang than to that of man. This indisputable fact best illustrates a law of nature, shewing a gradual ascent up the scale of living beings, at the summit of which stands man. There is no sudden transition in this scale. The lowest man (in intellect) but approaches the highest animal, where the gradations are equally unstriking.

“The principle on which is apportioned stupidity or ferocity in animals, according to the development of the jaws as compared with that of the brain, has been established on the authority of Cuvier. No doubt it was the starting point of Camper, when he thought of measuring the intellects of races of animals, and even that of individuals, by the opening of their facial angle; it being a fact that this angle diverges in ratio to the distance the animal stands from man in intelligence, and converges in the opposite direction of the scale. Indeed, so low does this scale reach, that some

of the inferior animals appear destitute of cranium; the crocodile among reptiles, and the pike among fish, furnishing examples of this.”—“Horses, cattle, &c. that have eyes placed very high or backward towards the nape of the neck, manifest an expression of stupidity or heaviness; and birds that have very long beaks evince the same sort of expression.”—“The type of beauty of head, as that of its several regions, is to be found in the oriental horse, and especially in the Arabian. His head is quadrangular; it does in a measure assume the figure of a quadrilateral prism, especially about its superior parts. Of such heads all the regions are in general of proper conformation. The forehead is broad, and is in a line with a well developed muzzle; the jaw-bones are prominent and divergent, the nostrils dilated, and the eyes full; the muscles are well marked through a thin skin: every character, in fact, indicates *noblesse*, strength, vigour, energy.”

The Foot.

Passing from the head down to the foot—omitting all that intervenes—we find M. Richard commencing by informing his readers, that “the learned English veterinarian, Bracy-Klarc (Bracy Clarke) has published on this subject one of the most ingenious and remarkable works to be found either in natural history or physiology; a small book, which, translated as it is into French, ought to be in the hands of every man fond of reflecting on the animal economy, and of investigating whatever the horse in particular presents to his notice.

“For the due performance of its functions the foot requires—1st, To be firmly united with the parts it covers and protects; 2dly, To be elastic, in order to permit the soft parts it incloses to expand at the moment of pressure upon the ground without being squeezed; 3dly, It requires to grow, in order to renew itself and to provide against wear. In a good foot these conditions are found united in the highest possible perfection.

“The wall of the hoof answers three purposes:—first, it is protective; secondly, it furnishes the uniting medium to the soft parts; and, lastly, through its admirable disposition not only does it, when set upon the ground, favour the expansion of the foot, *but likewise the impulsion given by muscular force to the body*, an operation observed in no other animal save the horse. The laminæ resemble precisely the plaits covering the under surface of certain species of mushrooms. Their number is said to be about 500, and we have, from counting them, found this calculation pretty well exact. It

has been estimated that, so disposed, the laminæ increase twelve times the adhesion between the hoof and the foot. The following example will give us a just notion of this:—Take a book of a certain thickness, endeavour to paste or glue it to another of the same size, by as much of the surface of its leaves as is exposed when close shut: the surface of cohesion being so limited, little force would be required to separate one book from the other. But, now open the leaves of the two books, and serve them as Nature has the laminæ of the horse's foot. Separate the leaves of the two books, and dove-tail them, one set into the other, and in that position paste them together. United in this manner the separation of the two books becomes impossible, in consequence of the multiplication of the surfaces stuck together. The wall being flexible and disposed after the manner of an arc, so contributes to the elasticity of the foot. Thus are the three uses of the wall completed.

“The sole is likewise flexible, and is disposed in the form of an arch, in order that it might with more effect resist the superincumbent weight, the tendency of which is to press it close to the ground. The moment it is pressed, therefore, it bends, and its borders being in close union with the wall, that opens and closes under its pressure, after the manner of a bow. If the arc of the sole remained fixed, if it no more returned after being pressed down to its natural shape, the action of the bow would not be sustainable: the Maker thereof would have strangely defeated his own end, and that can but seldom happen. Therefore, the sole, like the wall, contributes to the protection of the foot, to consolidate the union between it and the hoof, and to render the whole elastic.

“The texture of the frog differs essentially from those of either the wall or the sole. Its substance, soft and flexible, in action possesses great analogy to elastic gum. It yields to pressure, and resumes its form after the same manner the moment pressure is abstracted. It often happens that this wedge, squeezed by the superincumbent weight against hard ground, spreads and dilates the interspace it occupies. The incurvated extremities of the bow formed by the wall being fixed to the frog, are forced farther apart every time the frog is expanded by pressure upon an unyielding surface. Bracy-Klarc (Bracy Clarke) holds a different opinion. According to him the frog constitutes the veritable chord of an arc to the wall. In general, we are willing to admit this theory; at the same time, it appears to us impossible to deny the forced expansion of the frog as the plantar cushion, and especially whenever the *appui* is against a hard substance. And if we are compelled to admit such expansion, can we deny its influence in dilating the heels? We put this question to physiologists.”

To the three functions likewise generally ascribed to the frog, viz. its subserviency to the elasticity of the foot, its use as an additional bond of union between the frog and the hoof, and as *a protector to the insertion of the perforans tendon*, M. Richard would add a fourth, which to him its disposition renders sufficiently evident:—

“After the hoof has been macerated long enough for its constituent parts to separate one from another, we remark that a circular band, proceeding from the frog, encircles the superior border of the wall. If the foot of the living horse be immersed in a bath, this band becomes distinctly apparent. It serves to prevent the dessication of the wall at its union with the skin, to which it firmly adheres itself, and thus materially assists to strengthen the hoof. It is something similar to the band woven in socks (for our own feet) for the purpose of giving them a set upon the leg after being drawn over the instep.

“On observing the foot of whatever animal, we cannot but remark that the part which comes upon the ground expands the moment pressure is super-imposed, and re-assumes its wonted form as soon as it quits the ground. This is as it should be. The sole of the foot is provided with tissues of that soft nature that yield to pressure. They are of a quilted nature, most proper to protect the bones of the foot, their articulations, and the flexor tendons of the pasterns. Without this admirable provision of Nature, contusions against the ground, or wounds, would have rendered progression difficult, if not impossible. It is easy to imagine that this expansion of the foot is as facile as it is natural in every animal whose feet are unconfined. But when the feet are encased, as the horse's are, how can we admit the operation of such a principle unless the cases be themselves elastic? The horse's hoof not only admits of the dilatation observed in the feet of other animals, but it also favours the rapidity of his steps by its retraction, after the manner of a bow, and bracing the tissues it envelopes without injuring them. It is easy to make this double result intelligible. The bow (or spring) formed by the hoof is put upon the stretch the moment weight is imposed upon it, and recoils whenever the foot quits the ground; consequently it must have some effect in lifting the body and accelerating the force of projection. Fit a dancer with an elastic pump in imitation of the hoof of the horse, and he will jump to admiration; deprive him of this aid, and you will perceive the difference. As to what we have said about the tissues of the foot being strengthened by such an envelope, nothing is more verifiable. We have only to recollect how much better we can travel in shoes

which nicely fit without hurting us, than we can in shoes too large for us, in which our feet, anything but easy, are neither supported nor comfortably encased, and the conclusion will come home to us.

“It, perhaps, will be said that any latitude of elasticity of hoof is not rigorously called for, since the hoof may be encircled without any inconvenience by a band of iron nailed around the bottom of the wall. This specious objection may appear of weight to persons uninformed on the question, though it is really without foundation. Experience has shewn that the iron shoe is a necessary evil. In limiting the play of the hoof, it does harm to the natural functions of the foot, and provokes the contraction of its heels (hoof-bound), the compression of the tissues, and lameness of an incurable description. Never, or very rarely, will a horse prove hoof-bound that has never been shod; never will his foot grow deformed, contracted, painful, as is too often visible after shoeing: and so an infinity of contrivances have been set on foot to preserve the hoof under usage from having its expansion interfered with, and so to resolve this problem. Up to the present hour, however, has experiment failed in any satisfactory result.

“If, after the manner of an arc, or springs which have a double action, the wall of the hoof bends but little at the centre, by which we mean, in technical language, the *toe*, the play of the extremities (the heels), which are thinned off, ought to be very great; and the posterior parts of the foot should possess the greatest elasticity. This disposition, so happily combined, explains why, in shoeing, the nails are kept as much as possible towards the toe, in order that the quarters and heels may enjoy the full extent of elasticity admitted them by the attachment of the hoof to the foot. This is the only means of alleviating as much as possible the evils incontestably arising out of shoeing.”

The extracts we have made will abundantly prove the truth of what we advanced at the commencement of this review, viz., that M. Richard's work was far from being a mere descriptive outline of the conformation of the horse. On the contrary, we said he had entered both anatomically and physiologically into his subject, taking that comprehensive view of it which alone can convey to the mind of the reader the relations existing between external and internal parts, together with the operations reciprocally in force between the one and the other. In fact, the work is calculated not only to instruct in abstract “conformation,” but at the same time to give its reader the reasons why such and such conformation is to be preferred to “make and shape” of another or opposite cha-

racter. It is decidedly superior to any work of its class that has come under our notice ; and still—as most works of the kind indeed are—is as intelligible and interesting to the general as to the professional reader. Besides which, it contains useful information on subjects not generally to be found in such works ; for the names of which we may refer to its title. Altogether M. Richard has got up a serviceable and saleable work ; and though he has manifested that ignorance of English veterinary literature which French veterinarians in their writings in general do, he appears to have armed himself with such knowledge as the professional sources of his own country held out to him.

Home Extracts.

VICIOUS HORSES.

By HARRY HIEOVER.

THERE is, I conceive, no animal indigenous or exported to any civilized country, where he is in use, in whom vice is so objectionable as in the horse. I particularize a civilized country, because if a Tartar or some other nations found a young horse incorrigibly vicious, they could turn him to the same account we do the ox, by eating him ; but we do not eat horse here, that is, not if we are aware that it is so, though we do often, I believe, get such a treat in this our great metropoli when we indulge in sausage guaranteed made in Germany, or, if we are disposed for a higher relish, warranted filled and cured at Bologna. In truth, we often dine on much worse things than would be a bit of a fine young healthy horse, put into the hands of a good French cook ; he would (to my individual taste) make a far better thing of it than the finest sirloin of the finest ox ever fatted, roasted plain by a twenty-stone English female “ good plain cook,” the only description of female for whom I entertain a comparatively sovereign contempt.

That vicious propensities are sometimes inherent is doubtless a fact, as they are with many men ; if not so with the latter, they make pretty good use of their time at a very early age, for we see them, in phrenologic language, very strongly developed in numberless boys. I fear acquaintance with the world does not so much eradicate the vice as teach hypocrisy to conceal it ; but, supposing that we establish it as a fact that certain vices *are* inherent in the horse, it in no shape proves that he is naturally a vicious or ill-disposed animal ; various circumstances prove that he is not so.

We will suppose a colt got by Alarm (about as savage a horse as any living): this colt shews savage and vicious propensities even at his dam's side; these vices we have reason on our side in supposing to be inherent—in fact, inherited from his sire; this merely proves that the sire was vicious, and the progeny inherited the same or some of the same vices. We must, to come to any definite conclusion, investigate *why* Alarm was, or is, as vicious as we find him. He is not a horse I am much acquainted with, so I cannot answer the question. If his sire or dam were vicious, we must then ask why were *they* so: all this may go back for two, three, or ten generations, and all may have inherited the family vice; we have still to ask what made the tenth generation back vicious? I will answer for it that it was not that they were born so—at least it would be one instance in a thousand if they were. Even with man, whom I consider a more vicious animal than quadrupeds are, vice is not a natural propensity;—to err is. Adam erred in listening to the persuasion of a beautiful woman (who would not err in the same case?), but he was not vicious; and though man has been so for ages, it is not nature that made him so, but intercourse with other men: in other words, the world, deprivation, unkindness, ingratitude, hope deferred ending in disappointment, services or labour ill repaid, injustice, calumny, and all those ills that flesh is heir to—all conspire to disgust him with his fellow-man, on whom he turns round a *made* but not a natural savage.

So it is with horses, whether we go to the large tracts of Cleveland pasturage, the fenny acres of Lincolnshire, the woody precincts of Windsor or the New Forest, be it hunter, cart-horse, or pony, his natural disposition is nearly the same: but we will travel further a-field, and suppose ourselves in the palpas of America, the ukraine of the Tartar, the treeless and shrubless plains of the Falkland Islands, or the almost equally naked wastes of Patagonia, we shall only arrive at the same fact, whether the horse is trammelled with the halter or the lasso. From the innate love of liberty born with all creatures, the innate hatred of servitude, and the distrust of man, whether it arises from his being strange to us, or from knowing him too intimately, the captive struggles to escape: but with the quadruped the struggle soon ceases; he feels he is captured, and, though his struggles were violent, they proceeded not from *vice*, but a love of liberty and a fear of man. A few days, nay a few hours, bring him to a state wherein he offers no violence or vice to his captor, and this is generally repaid on the part of the latter, more or less, by severity and ill-usage.

There is something so vain, so foolish, and so overbearing, in the mind of man, that whatever or whoever in any shape refuses or

hesitates to bend in explicit obedience to his lordly will, is set down as refractory, and a culprit that has rendered himself worthy of the utmost severity the art of man can inflict; and this idea leads him to acts of the grossest injustice and cruelty.

We are, both for our safety and comfort, authorized in counteracting any acts likely to endanger either of them, but counteracting and punishing are widely different: we may be, and I should say are, quite justified in taking life where we consider our own in immediate danger, but even in such a case we might not be authorized in inflicting punishment. In all cases before we do this, even supposing an attack on our own lives was meditated, we should see why such was the case. If a wild beast attacks us from hunger, shoot or destroy him; but he merits no torture or punishment. If we approach too near a troop of wild horses, possibly they would attack us. Why? Not from ferocity, but from a fear that we contemplated some mischief towards *them*. Few, if any, wild animals will attack us, if we do not approach near enough to excite their fears or suspicions;—the horse would never do so. Whether on once being subjugated he submits quietly to man, is any proof that he was especially designed for our use, is too abstruse a subject for me to consider; but that he does in a general way so submit is a fact not to be disputed. One reason why we might be disposed to imagine that the will of Providence had less to do with his docility than the will of the animal, is this:—the zebra, with a trifling difference as to size, would be as useful to us as the horse; he, however, will not submit to the same subjugation from us: he remains indocile, nay, vicious and savage, to the last, though from make, shape, and action, as superior to the ass as the horse is to the zebra. This looks more like docility in the horse inducing him to serve man, than Providence ordaining him to do so.

That any carnivorous animal, of strength and size enough to give him courage to attack man, should do so, arises from the most common of all causes: the same that induces us to attack a lamb, a hare, or a fowl; the beast wants to eat us, as we want to eat the animals mentioned, the only difference being that we fancy the lion has no right to eat *us*, though we have a self-constituted right to eat the *lamb*. If Providence thinks as highly of us as our arrogance induces us to think the case, why the deuce was the lion sent?

It is a fact, but one the reverse of being indicative of the good feeling of mankind, that, generally speaking, the first proof a captive (be he what he may) gets of being captive is severity from his captor; who, instead of endeavouring by kindness to reconcile his prisoner to his situation, sets about breaking his spirit, in lieu of

allaying his fears and distrust; thus at once raising disgust and hatred as barriers between master and servant. It is thus with the unfortunate negro torn from his family on the coast of Guinea, and thus with the horse taken from his native pasturage. The first suffers from unfeeling avarice on his voyage to final slavery; the latter from ignorance and brutality in him who undertakes to render him docile for the masters he is destined to serve. Brutality and unmerited ill-usage will always produce in man a desire of revenge, which his better judgment teaches him to conceal, but which, like the smothered flame, will burst out at the fitting moment. Fear is the first feeling of the captured animal; ill usage produces hate, and hate produces at first resistance; and if this is conquered, leaves vice and ferocity of disposition, that is also exhibited on every opportunity that offers. Whereas, different—that is, proper—treatment would have rendered him a willing, cheerful, and valuable servant in our pursuits of business or amusement.

In these days of monster meetings, monster sweeps, and monster trains, few establishments would be of greater utility than a monster breaking-school for young horses, where all the breakers should be men of superior sense, if not of education, and the head or heads of the establishment persons of still higher attributes. The thing on a large scale could be done cheaper than it is by a common colt-breaker; and, instead of having a promising colt ruined by an ignorant savage, we should be certain of his being placed in the hands of a recognised man of ability, patience, and good temper, and he under the direction of a man of education.

I am aware there are numerous places where young or old horses can be sent to be broken as colts, or as horses broken to harness; and doubtless many of these places are owned by respectable and experienced men, but they are by no means so in a general way. Now, if some properly organized large establishment was set on foot, we will say by a company, or one person of large means, where none but competent persons would be taken, we should be as certain of horses being properly attended to, as we are that a boy will be so at Eton, Oxford, Cambridge, Harrow, or Rugby—a confidence in no way to be universally placed on minor schools. For the master of an ordinary school may take any lout or savage of an usher that he pleases, because he gets him at a low salary. Such a man would never get his foot into any of the colleges or schools mentioned. So there are thousands of veterinary surgeons, and many of those men quite worthy of confidence, both as regards ability and integrity; but we *know* that the head of a veterinary college *must* know his business, or he would not get there, nor would he be continued if even he did. He must also have con-

siderable experience and practice, and every advantage and appliance to favour his ability.

In this speculative age many more improbable things daily take place than an equestrian college for the education or breaking of horses. I have the thing all arranged in my mind, from the stabling to the lunging ring.

From whatever cause a horse may be vicious, be it hereditary, or brought on by bad judgment, bad temper, timidity, or brutality in his breaker, one thing is quite certain,—the vice must be cured, or, at all events, partially so, before he can be of general use to us. Some persons might thoughtlessly say, It matters little what made a horse vicious, if he *is* so. This is quite a mistake; for the origin of it matters every thing, both as regards the probability of cure and the mode of setting about it.

If a man has had his leg amputated, it certainly matters little to him whether the necessity of amputation arose from the kick of a horse, or the falling of a chimney; but it would matter a great deal whether it arose from accident or disease; as, in the latter case, he might live under the constant dread of a return of the complaint in some other part. But he must be a most unlucky wight if he should lose his other leg from the same kind of accident that lost him the first.

It is something like this as regards vice in an animal: if it is hereditary, or proceeds from a bad disposition altogether, it then becomes very difficult to eradicate; if, on the other hand, it arises from treatment, we must then investigate *what* that treatment was, that, by adopting its opposite, we may, by time and patience, undo what never ought to have been done.

If, for instance, a colt becomes self-willed, from the timidity or too much lenity on the part of the breaker (a circumstance that does not occur once in a hundred times), it then becomes necessary, by determined resolution, to shew him that he has at last met with his match; and the *fortiter in re* must immediately and determinedly follow the failure of the *suaviter in modo*. And here boldness, strength, and resolution on the rider's part will generally produce a proper effect without resorting to punishment; for the animal is only like a spoiled child, self-willed, from having been allowed to have his own way. And even supposing what he does amounts, in point of fact, to the same thing as vice—such, for instance, as refusing to go the way we want him—it is only vice from habit, not vice from a sulky, savage, or violent disposition; though he would probably be made to evince one, or all, of these propensities by undue punishment. If the spoiled child and the spoiled colt find that by resistance they gain their ends, they will ever resist where compliance is in any way contrary to their own inclinations;

but if they find that they *always* get the worst of the contest, they will soon learn that it is easier, and consequently pleasanter, to themselves to obey at first than at last. To obey is all we want of them. To teach them that they must do this, it is by no means in all cases necessary to also teach them to dread and consequently to hate us.

With the colt of an absolutely vicious, savage disposition, advocate as I am for gentle usage of horses, and more particularly of young horses, I am aware a different conduct must be pursued; for if we cannot *eradicate* his vices, we have no resource but to make him afraid to *shew* them: in such a case, the best we can make him is a subdued savage. Instances, though rare, have been known of the zebra being brought to this, but we can seldom or ever get further with him, which shews him to be *fera natura*; while the horse is only wild from the want of being brought in contact with man.

We will now look a little at some of the different modes in which horses exhibit vice.

I must here take the liberty of digressing a little from my subject, while I solicit the lenient construction of my reader on any occasion when I may mention myself, my own horses, or circumstances that may have occurred relative to myself or them: the writer who is egotistical to recount his own exploits renders himself most deservedly liable to both ridicule and reproof. But I hope and trust, when I bring forward what may have happened to myself, it will be seen that I only do so to shew that what I may write, or the opinion I may promulgate, is founded on *practical experience*. It is certainly egotism *in se*, but a description of it, that I trust, when brought forward, will be held as not only pardonable, but justifiable. Now to return to my subject.

Biting and Kicking in the Stable.

This would appear, on the first consideration of it, as positive proof of a regular savage disposition; but to set against this, how are we to account for numbers of horses being vicious in the stable, but never attempting to bite or kick at either master or stranger when out? I had a mare with such a habit. In the stable she would be certain to lay hold of any one, if not watched; out of it, no quieter animal lived: even in the stall, once get hold of her head-collar, she would eat bread or corn out of your hand, and even lick it; but the next moment, if loosed, and you turned your back, she would seize you to a certainty—it seemed an impulse she could not withstand: still, if her biting was from a savage disposition, or hatred of man, why would she not bite out of the stable? A friend of mine had lately a horse who would let any

one handle him in the stable or out; but if you laid hold of his neck as we frequently do by way of feeling the crest, he would seize one with all the ferocity of a bull-dog, and not let go very readily afterwards. Now this objection to be handled could not arise from any natural ferocity, for under such influence he would as readily have bitten on any other part of his body being touched, or on being approached. I make no doubt, had every circumstance that had occurred to him from a colt been traced, a cause for this peculiarity would be found, as it would for many other acts of the animal which we set down to sheer vice; and he gets very improperly, ill-advisedly, and indeed unjustly, punished for that which does not exist.

I will here bring forward an instance where a most valuable horse, the property of a friend, lately died a martyr to his resistance being set down to violence and impatience, when it solely arose from intense agony. He had had his arm broken by a kick from another horse, who got loose in the same stable. One of our leading veterinary surgeons was sent for, who very skilfully set and spliced up the broken bone, and the horse was put in a sling for support till the bone should have time to unite. He was one of the most placid and perfectly harmlessly disposed animals in existence; but, on his fore parts being raised up, he resisted most violently, nor could all the efforts of his groom, and those about him, in any way pacify him. No horse under the influence of hydrophobia could struggle more madly. This, with the exception of short intervals (when he remained quiet from absolute exhaustion), continued for two or three days, when he died frantic. On the body of the poor animal undergoing post-mortem examination, it was found that two or three of his ribs had also been broken; of course, the pressure of the sling suspending him must have caused unspeakable agony, and accounted at once for his violence. I have no doubt many horses are punished, when little more to blame than the one I allude to. Every thing was done that art, ingenuity, or money could command, to render his suspension as comfortable as possible: there was only one thing wanting, namely, the suffering animal being able to tell why he resisted; and this disability is the occasion of more suffering and more unjust punishment where horses are concerned than we imagine.

It may be said, in refutation of my excuse for many acts of apparent vice in the horse, that no excuse can be offered for his biting or kicking us, or attempting it, when we do nothing to hurt or annoy him. I will beg permission to ask any one making such an observation, did he never strike at—nay, kill—a wasp or bee that merely buzzed about his ears? Why does he do so? He has perhaps been stung by one or both such insects, or, at all events,

knows they can sting; he fears, therefore, they will hurt him, and strikes at them to drive them away. The horse does the same thing. I will answer for it, he has often been much more hurt by man than man ever was by a wasp. It will be said by some, that the certain death of a hundred animals, of no pecuniary value, is not to be put in competition with the smallest pain to man. I am not quite satisfied of this, for I daily see many common animal propensities in man, but no superfluity of animal virtues.

I have known several horses who were vicious as to kicking in the stable become perfectly quiet towards those they got accustomed to; but I never knew, or heard of, one biter that left off the practice of biting. It is a vice or habit incurable.

One thing is quite certain; let vice arise from what cause it may, no man should purchase a vicious horse if he intends him for any purpose that would occasion his being placed in the hands of strangers; and this will hold good more with an inveterate biter than with the horse that kicks. It is easy to watch, and consequently avoid a horse's heels; but a regular biter is all but certain to pin a stranger; in fact, he often catches those aware of his tricks, and his bite is awful.

There is another, though rather uncommon vice, that some horses shew in the stable, this is—

Squeezing, or, in Stable Phrase, “pinning one” against the Standing.

This very singular habit certainly looks more like determined vice than either biting or kicking, both of which are the acts of the moment; the other seems like a premeditated *intent* to injure us, and injure us it certainly would, most seriously, if he caught us just at the place and moment when we should derive all the full benefit of the favour intended.

The horse who has this vice watches till either in going up to, or in coming away from him, we are about opposite to his hip; he then, without any preparatory motion to put us on our guard, throws his hind quarters, with all the force he is capable of, against the standing. Should he catch us in certain positions, it would be almost certain death; but in any way, if caught at all, we must sustain serious injury.

I can in no way soften down this vice into a trick, or act of the moment; and if horses were tried for their lives, every jury would very properly bring this in *malice prepense*; in fact, premeditated murder, if death ensued. Still we must bear in mind, that probably the animal, even here, tries to injure us lest we may injure *him*. Or from hatred of us for injuries received, he might be, like *Othello*, not naturally savage, but have been vexed and worked on

“in the extreme.” He is, however, a decidedly vicious and dangerous animal, and one who ought to have numberless redeeming qualities to induce us to put up with this most vile habit.

I was once very near being so lovingly squeezed by a gentleman of this sort, that, had his kind intentions taken effect, I should not now be recording the circumstance. I was on a visit to a clergyman, and concluding all his flock, biped and quadruped, to be well disposed, from the precept and example of the truly worthy and amiable pastor, I went up to one of his horses in his stall. Had I done this as carelessly and slowly as many men do, I should have been nailed; but making at once up to his head, I was too quick for him; but he threw himself against the standing with such force that it creaked again. Of course, in coming away, I timed it so that he had cunning enough to be aware it was no use troubling himself about me. On mentioning the affair at breakfast, I was congratulated on my escape, and was told he would thus serve any one but the man who fed him: this shewed the horse was no fool; so I begged permission to give him a few practical lessons that I thought would do him good. To effect this I got the groom to procure some good old hard furze, stiff as a black thorn; this I got fastened to the near side of the standing, just in the place where the horse would throw his hind quarter, so as to make about as comfortable a lounging place for him as were the famed barrels of old, lined with spikes, in which they amused criminals by rolling them down a hill. All being prepared, I went up to the horse in a manner that made him sure I was to be pinned; but on the first stir of his body I jumped back, he threw himself with fell force against the thorns; on doing which, quick as his motion had been, it was still quicker in jumping back again. He snorted, and as Mrs. Glass says of some dishes, he actually was a horse “surprised.” In an hour I repeated this. He had forgotten my *pointed* reprimand, so his good intentions got the same reward as before. This time I jumped up to his head, when the villain twisted his hind quarters round as far as he could, and kicked at me. This certainly was determined vice, and many men, as the groom avowed he would have done, would have applied “a broomstick to his hide.” What would have been the consequence of doing this? The horse trying to crush an approaching stranger, no doubt, arose either from fear, or hatred, or both. The application of a broomstick I do not conceive to be likely to diminish either the one or the other; but probably, instead of curing the one vile habit, would have induced the horse to use his heels to prevent any one entering his stall *at all*, or, what is quite as likely to have been the result, to have lashed out at every one who came within his reach in any situation.

But, to make the anecdote as short as possible, after three or four practical lessons, though from habit he made, for a day or two, a threatening motion, he thought better of it, and did not attempt to close with my furze. I caressed him constantly, and though at first he drew himself close up to the manger on my going up to him (which satisfied me that fear was the origin of the vice), in a few days he left that off, and we parted confident friends. I left my barricade as it had been put up, and I heard, six months afterwards, that the horse had never repeated his former vice; what he might have done if put in other hands or another stable I cannot say—I merely state the fact as it was.

The low and uninformed seem to consider that violence and blows are the sovereign panacea for all faults, whether those of brutes or the human kind. It may at first appear somewhat unfeeling when I say that if I see a dumb animal and a man or boy corrected, the former excites my pity more than the latter; but I hope to convince my reader that I entertain this feeling on something like reason and defensible grounds.

Few men are so perfectly brutal as to correct a boy until he has committed that which he has often been told was wrong, consequently he knows that it is so—the unfortunate dumb animal has no such insight given him, and a thick-skulled lout, who may have just sense enough to know what it is desirable a horse should, or should not do, will suppose the animal knows the same, when in all probability he knows no such thing. But independent of this, such is the arrogant disposition of man, unless his disposition is refined by education, and consequent reflection, that whether his will be right or wrong, any opposition to it is, in his eyes, a crime meriting severe punishment.

“He knows well enough that he is doing wrong,” is a constant reply from a stupid fellow, if remonstrated with on any improper severity to a horse or any other animal. We will say a horse kicks at a man; he then flies up into the closest corner of his stall, and perhaps trembles. “There,” would exclaim the lout, “now see whether or not he knows it;” and he takes this as proof, expecting another person of more sense to receive it as conviction also; but it is no proof at all—the horse had probably kicked before, and been broomsticked for it; he knows this much, and fears a repetition of the punishment. If the horse could speak, he would say, and most probably with truth and justice on his side, “I have generally found man a tyrant to *me*; any docility on my part seldom rewarded so as to encourage, but any failure of doing the will of man punished with unmerited severity; in fact, when he approaches me, it is usually to harass or annoy me in some way—am I not justified in kicking at him to keep him away?” If

such an appeal was made to me, I should answer it, as I did one made to me by a young ensign, relative to a difference between him and the major of the regiment, in which the ensign was quite in the right. "Would it not," said he, "be quite right in me bringing the matter before a court-martial?"

"Quite *right*, my dear fellow," said I, "but very *imprudent*." Why imprudent? Any military man can, if he pleases, tell the inquirer.

New Sporting Magazine, December 1848.

Foreign Extracts.

REPORT OF THE SUB-COMMITTEE APPOINTED TO EXAMINE INTO THE TEACHING OF VETERINARY MEDICINE IN FRANCE.

[Continued from page 23.]

Modifications brought about in the Organization of the Alfort School from 1779 to 1783.

AFTER the death of Bourgelat, which happened in 1779, the courses of instruction at the veterinary schools underwent some modifications.

Bertin, the Minister of Finance, who was well acquainted with Bourgelat's plans, and had afforded him means of carrying them into execution, struck with the eminent services veterinary pupils had rendered in the country through their professional knowledge, conceived the idea of enlarging the circle of their knowledge by having them initiated in some of the most usual practises of human surgery. With this view, he founded in the schools courses of (human) *obstetricy* and operations; and afterwards added courses *on the diseases of the eyes*.

Such a project, however, although commendable in itself and truly philanthropic, could alone be justified on the score of the scarcity there was at the time of men worthy of the name of medical, and the vast quantity of charlatans there existed everywhere in the country; and therefore could turn out no more than a transitory measure: adopted simply for the purpose of meeting a necessity of the times, it would naturally die away with those times.

Moreover, the project never completely succeeded. Though, theoretically, the fusion of the two arts of medicine presents real advantages, in practice insurmountable obstacles present themselves in the working of the plan, and particularly in the hands of the veterinarian.

It is natural enough for a man to feel a repugnance at receiving medical aid from the same hands that administers it to beasts.

Consequently, Bertin's project turned out a failure.

Another scheme of this minister would have proved more successful had it been put into execution.

He had annexed to the Alfort School from its foundation "a menagerie of such foreign domestic animals as promised hope of fecundation in France, as well as of such wild animals as might afford prospects of becoming tame, or of forming alliances with domestic animals of their own species, and which, improved through either of these means, might turn out of real advantage in the general economy. With this view were imported from England a considerable number of animals, both fowl and quadruped; Spanish sheep were procured with fine wool, and male and female goats from Angora; and from the king had been obtained lamas and the vigou, out of the menagerie of Versailles."—*Extracts from the reports of the day.*

Here was the germ of a good idea, which on some future day would have been productive of excellent results, had it been followed up.

On the retirement of Bertin, however, economy becoming the order of the day, government deprived the school of the means of cultivating this vast and precious field of physiological experimentation and practical teaching. And the same happened to a dépôt of stallions which had been withdrawn from the royal stud for the purpose of being made subservient to the instruction of the pupils. So that from its very origin, very many circumstances combined to render abortive the plans of Bourgelat, so well understood by the minister who organized it, and to whom he had communicated, for adoption, his entire scheme.

Project of Calonne (Minister of Finance) for the Organization of Veterinary Schools.

A brilliant effort to organise a system of veterinary education according to a plan truly philosophic and comprehensive was made in 1783, under the administration of the enterprising and reforming minister Calonne; who, in order the better to accomplish this end, availed himself of the suggestions of Vicq-d'Azyr, Daubenton, and Broussonet.

Three fresh professorships were created at Alfort; one of *comparative anatomy*, a second of *general physiology*, and a third of *rural economy*.

In instituting these new chairs this minister's plans "were vast in the highest degree," according to the report of the time. They had for their object the reunion in each of the new professorships

of every thing that could in any way tend to the progress of the sciences which they were designed to teach. The anatomy of every animal known was to be studied, and preparations out of each were to be made, and deposited in the museum by the side of those already therein. The professor of chemistry's labours were especially to be directed to the analysis of the animal kingdom; and, lastly, the plans of the professor of rural economy were to comprise the education, propagation, and means of producing new species of animals; embracing, too, the study of provenders and such vegetable productions as were available as food for domestic animals. And each of the professorial chairs was to have at command every means of experimentation and practical demonstration required to illustrate their instructions.

This plan of Calonne's was actually carried into execution.

Vast buildings were erected upon the Alfort estate for the reception of the chemical laboratory, the menagerie, and animals for experimentation.

Before these were finished even, were lodged within the school magnificent flocks of sheep of the Spanish breed, and cows from Switzerland, Bremen, Normandy, and Flanders.

Deer, bears, monkeys, jackalls and kangaroos, were likewise assembled at Alfort to inhabit the menagerie the moment it should be finished.

And, lastly, that the department of rural economy might be as complete as it could be made, the minister attached the farm of Maisons-Ville, which was close to the school, along with fifty acres (hectares) of land belonging to it.

And that nothing might be wanting to the success of this vast project, Calonne, in putting it into execution, called to his aid the learned men from whom he had had it suggested to him. Vicq d'Azyr took charge of the anatomical chair; Daubenton, Broussonet's assistant, of that of rural economy; and Fourcroy of the chair of chemistry and physics.

During the while nothing was neglected that tended to the perfection of veterinary medicine properly so called.

The pupils, under the guidance of their director Chabert, continued their investigations into the epizootics of the day, whose study, then altogether new, gives still to the clinical medicine of that day so high a character in point of general utility.

With such means and such men, veterinary science had like to have taken a rapid flight, and to have risen all at once in public estimation to that rank assigned it as well by its utility and by its social importance.

Unfortunately, Calonne did not continue in office long enough to see the establishment of that of which he was the founder, the

benefits arising from that magnificent organization which he had set in motion. On his leaving office, a rigid economy enforced the suppression of the newly created professorships, and of all expenses necessarily entailed upon them.

With the professorships disappeared the herds and flocks, and the menagerie as well.

The school became contracted again to the same dimensions it occupied at the death of its founder (Bourgelat), and no vestiges of Calonne's administration remained save the buildings, the farm, and the preparations.

The Emperor's Decree on Veterinary Schools in 1813.

Little was done by government to ameliorate veterinary establishments from the time of Calonne up to the year 1813. The schools remained as Bourgelat had left them up to this year. But now a decree of the Emperor (Napoleon) set them upon a new foundation. This decree appointed five schools of veterinary and rural economy throughout the empire; one first class, and four second class. And by it veterinary education was divided into two courses.

The first course, common to all the schools, comprised—

1. French grammar.
2. The anatomy and exterior of animals.
3. Botany, materia medica, and pharmacy.
4. The art of shoeing, the forge, and jurisprudence.
5. The treatment of the diseases of animals.

The second course, confined to the Alfort School, embraced—

1. Rural economy, and the breeding and rearing of domestic animals.

2. Zoology.

3. Physics and chemistry applied to the diseases of animals. Such was the system of 1813. It did not turn out a happy scheme. Circumscribed within the same limits, deprived, too, of the means of experimentation, it was impossible for it to acquire any elevated character for science.

The decree of 1813 continued in force until 1825, and then came—

The Royal Ordonnance of 1825 for the Organization of Veterinary Schools.

By this "ordonnance" a *third* veterinary school was created in France, viz., that of Toulouse.

[To be continued.]

THE VETERINARIAN, FEBRUARY 1, 1849.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

IT will be seen by our Council Report, that a "revision of the by-laws," for the second time, is about to take place. That laws brought into existence by the Charter should within so short an interval have called *twice* for "revision," *alias* correction, would seem, *primâ facie*, either to cast some reflection upon those who made them, or else to argue that the circumstances under which they were made had become so altered that revision was absolutely necessary. We believe the latter to be the case. We are not conscious of any want of care and ability on the part of those who concocted the present code of by-laws; neither are we aware that any more able and pains-taking power is to be found in the Committee appointed to "revise" that code. But we feel that circumstances are not altogether what they were. We feel that matters have come to light which were not in existence in the former Committee's time; and, moreover, we feel that the working of the present laws has, as might have been expected, demonstrated their efficiency in some respects, while, in others, they have been found weak or wanting. And so—looking too at the present aspect of professional affairs—we are not content merely, but gratified, that "revision" should be the order of the day. And therefore we shall give the Committee, in so far as in us lies, our very humble and undisguised support in the work.

Preliminarily, there appears in our mind this very important difference between making by-laws in times present and in times past. In times past these laws had little consideration given to them save at the hands of those immediately concerned in framing them: in times present there is no earthly reason whatever why the *entire veterinary profession* should not be made a party to their constitution. Let every individual member of the profession, say we, take the by-laws in his hand*, and attentively peruse and consider them; and should out of this study any amendment or alteration suggest itself to his mind, let him forthwith communicate the same to the Committee; or, if he likes, to us: we promise him his suggestions shall not go unheeded. Once for all, then, we invite the members of the veterinary profession—and let them not say afterwards they were not warned—to take this silent part in the interesting discussion that is on the eve of being set on foot into the present by-laws; and we implore them, if grievance or complaint or improvement they believe to have conceived in their

* He will find them, as revised by the Council, in THE VETERINARIAN for 1847, vol. xx, p. 311.

lucubrations against or for the present laws, to COME FORTH WITH IT. Hints and suggestions, offered in the true and honest spirit of rendering our by-laws as perfect as such laws under the circumstances can be made, cannot fail to be received by the Committee in laudable tones of thankfulness and obligation; while they tend in no small degree to lighten the labours of its members, and smooth down their progress to the desired goal of perfection.

It may seem abrupt, and may indeed surprise some of our readers, to state here, that questions have, on more occasions than one, been raised concerning *the right or legality* of those to whom her Majesty has been most graciously pleased to grant the present Charter, *to make by-laws at all!* Most eminent authorities in law have been consulted on this point by the Royal Veterinary College of London, and the following are the opinions that have been obtained; for the publication of which we are indebted to the liberality and kindness of Professor Spooner.

The barristers consulted were Mr. Hill, Sir Fitzroy Kelly, and Mr. Peacock; and their opinions are recorded as follow:—

“ I am of opinion that the Corporation cannot interfere with the curriculum of study in the Colleges, nor with any of the regulations of these bodies in force at the date of the Charter, as from the preamble I think it must be taken that they were approved by the Crown, and formed the basis on which the Charter was granted.

“ I think the by-laws adverted to are bad in law.

“ By-laws, even if good in themselves, are invalid, if made in any other manner than that prescribed by the Charter.

“ Alterations and suspensions are the making of new by-laws, and must follow the same rules.

“ When duly qualified Candidates are refused examination, the application to the Court should be for a Writ of Mandamus to cause them to be duly examined, with a view to their admission.

(Signed)

“ M. D. HILL.”

“ 44, Chancery-lane,

“ 2 Dec. 1848.

“ We are of opinion that the by-laws are invalid if not enacted at a meeting of the Council, held pursuant to the Charter, and in all respects conformably to the provisions of the Charter; and we are of opinion that any alterations or suspensions of a valid by-law must follow the same rules as the making of a fresh by-law.

“ We are of opinion that the Council cannot by any by-law interfere with the curriculum of study in the Colleges, and that the by-law requiring apprenticeship is invalid, and that any students of any of the Colleges mentioned in the Charter, if they pass the required examination, are entitled to be admitted members of the Corporation, whether they may have been apprenticed or not; and if admission be refused to any such student having passed an examination, a Mandamus will lie, and a Mandamus will also lie to compel an examination if it be refused.

“ FITZROY KELLY,
“ B. PEACOCK.”

“ Temple,

“ 15 Dec. 1848.”

As these legal opinions were given *for*, or at the instigation of, the Royal Veterinary College of London, we may not be acting with any unfairness in assuming that as much has been said, as *by law* could be said, in favour of the said College. The preamble of our charter sets forth, "That the Royal Veterinary College of London, and the Veterinary College of Edinburgh, have been established for many years for the education of students of the veterinary art; that our said petitioners have been pupils at the Veterinary College of London; that the said Veterinary College of London was established in the year 1791, and has been patronized by our predecessors, and now enjoys our royal patronage; that the said College was instituted to improve the veterinary art, which had been theretofore practised generally by ignorant and incompetent persons, which had been long and universally complained of; that Parliament being fully convinced of the propriety of such an institution as the Royal Veterinary College of London, and of the national benefits to be derived from it, has munificently (when required) granted aid to that establishment; that our said petitioners humbly submitted that the institution of the Royal Veterinary College had been of great advantage to the country and to our royal army. * * That for the instruction of the pupils of the said Veterinary College, a professor, an assistant professor, and other proper officers, are appointed, so as to form a school of veterinary art, in which the anatomical structure of horses, cattle, sheep, dogs, and other domestic animals, the diseases to which they are subject, and the remedies proper to be applied, are investigated and regularly taught, and that by these means enlightened practitioners of liberal education are dispersed over the kingdom," &c.

Such is the preamble of the charter so far as it has relation to the veterinary schools or "colleges;" and as we are informed by the legal opinions cited, that we possess no power by any by-law to "interfere with the curriculum of study in the colleges," we naturally inquire what that "curriculum" is, and whether such "curriculum" be determinable and alterable by and at the pleasure of the heads of the "colleges?" We find it stated in the preamble, that a school is formed "in which the anatomical structure of horses, cattle, sheep, dogs, and other domestic animals, the diseases to which they are subject, and the remedies proper to be applied, *are investigated and regularly taught.*" Was this the case, we ask, at the time the charter was drawn up? Was this formerly, or is this at the present day, the curriculum of study at the colleges? And if it be so now, *is it not the charter that has made it so?* So far from "interfering" with the curriculum of study at the college, the corporate body have all along done, and are still doing, all they can to amend and improve that curriculum.

And to a certain extent they have succeeded, as a comparison between what it now is, and what it a short time ago was, will shew to any person who will take the trouble to look into the matter. And because the Council would still further improve that curriculum, by creating by-laws for apprenticeship, or for longer residence at college than two sessional years, do the authorities at the colleges threaten to quash the charter: since to resist the by-laws is substantially to set the charter itself at naught. Strange, passing strange it is, that men professing to have the same ends in view—the improvement of veterinary science and advancement of those who practise it—should so differ and wrangle about the means most conducive to bring about objects so desirable. Surely, interested motives must inadvertently, somewhere or other, have crept into the business. Either the Council must be interested in enacting such qualifications, or the colleges be so in their efforts to withhold them. Will any good soul guide us out of this labyrinth? But we are forgetting ourselves—we were examining counsels' opinions.

The next recorded opinion of counsel is, that “by-laws, even if good in themselves, are invalid if made in any other manner than that prescribed by the charter.” By which, taking the case in question, we presume is meant to be understood, that the by-laws touching apprenticeship and longer residence at college are, even though of acknowledged worth, invalid, because they are not conformable to the curriculum of study at the colleges, as set down in the charter. What this “prescribed” curriculum is we have just shewn, viz., “the anatomical structure of horses, cattle, sheep, dogs, and other domestic animals, the diseases to which they are (severally) subject, and the remedies proper to be applied.” Is all this, then, to be learnt in *two* sessions at college? Nay, are opportunities and means at college afforded the student for learning all this, let his stay be as long as it may? What a flagrant act have the Council been guilty of in compelling the student to remain *one session longer?* or in bidding him go and apprentice himself, that he might have an opportunity of acquiring elsewhere that knowledge which the college is or has been without the means of affording him? Oh, you shocking Council!

Lastly, say the barristers' opinions, “when *duly qualified* candidates are refused examination, the application to the court should be for a writ of mandamus,” &c. Referring once more to the “curriculum of study,” as “prescribed by the charter,” we will take upon ourselves to say, but too happy are the Board of Examiners at all times to see the “duly qualified” at their table, to need the slightest solicitation, much less to require any “mandamus,” for the purpose of examination. Welcome on every occa-

sion are candidates from the colleges; but thrice welcome are they who come proudly charged with Mr. Hill's noble postulate of being "duly qualified" for the ordeal at hand.

IN reference to Mr. Cox's affair, as reported in the "Derbyshire Advertiser" and copied into our Journal for the present month, we give it as our opinion, after attentively looking at the several features of the cases as stated, that the destroying enemy was no other than *rabies*.

PROCEEDINGS OF THE COUNCIL OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.

Sitting of December 29, 1848.

(QUARTERLY MEETING.)

Present,—The PRESIDENT, the SECRETARY, Messrs. SPOONER (Professor), CHERRY, sen., ERNES, PERCIVALL, HENDERSON, ARTHUR CHERRY, JAS. TURNER, MAYHEW, and BRABY.

THE minutes being read and confirmed,

The Secretary proposed that Mr. Robinson be elected to fill the vacancy in the Board of Examination caused by the lamented death of Mr. Mayer.

Mr. Arthur Cherry briefly seconded the motion.

Mr. Henderson made a few observations as to the necessity for careful examination.

Mr. Ernes objected to the manner in which vacancies were filled up. He thought that a more public notice should be given of the vacancy which had occurred, that applications should be received, and some means adopted to test the qualifications of such applicants. He did not raise any objection to the nomination of Mr. Robinson; but he considered that some such course would be conducive to improvement; and should suggest attention to this point in future. He thought that some testimonial or mark of respect should be given to the memory of Mr. Mayer, considering the active share he had in the obtainment of the charter.

A short discussion ensued on these observations, in which it was considered that the best time to entertain the latter proposition of Mr. Ernes would be at the general meeting.

The account of Mr. Walters, the late attorney to the body corporate, was then laid before the Board, commencing in July 1846, and ending April 1848. The amount was so moderate (£5..14s.2d.),

that only good-humoured comments on its smallness ensued, and it was directed to be paid.

The Secretary gave notice of motion, "That the apprenticeship clause be further suspended for this present session."

Adjourned.

Sitting of January 12, 1849.

(SPECIAL MEETING.)

Present,—The PRESIDENT, the SECRETARY, the TREASURER, Messrs. CHERRY, sen., PEECH, PERCIVALL, ERNES, JAMES TURNER, HENDERSON, ARTHUR CHERRY, and BRABY.

The minutes being read and confirmed,

The Secretary stated that this was a special meeting, called for the purpose of considering the propriety of further suspending the by-law relating to apprenticeship for this session, as several of those who memorialized the Council in the last year would now have completed their studies, and would be eligible for examination, except in this one point.

Mr. Percivall seconded the motion.

Mr. Arthur Cherry said, that as he, on the last occasion, took an active part in furtherance of the then suspension, he could not now do otherwise than support it.

A discussion ensued, in which it was explained, that it was only intended to apply to this one session; and it was merely a repetition of the motion of last year.

The motion was then put and carried.

Mr. Arthur Cherry said that he had a notice of motion to give for the next meeting of the Council; and as a summons for the next week had been issued, he could not but regret that such meetings should be held for *one* purpose only. He could not understand why members should be called from a distance to transact such a small amount of business as had come before them. He then read a notice of motion.

The Secretary said it could not be received; that at a special meeting nothing could be done except the business upon which the Council was convened.

Mr. Arthur Cherry stated, that such a view was out of all reason or usage; that the Meeting was perfectly competent to receive *notices*, though not competent to discuss them; that he had always made a point of giving notice of any motions he might have to bring before the Council, and should continue to do so, because he thought that members were entitled to be made acquainted with the nature of the business upon which they were called to deliberate.

Adjourned.

Sitting of January 19, 1849.

(SPECIAL MEETING.)

Present,—The PRESIDENT, the SECRETARY, Messrs. W. C. SPOONER (Southampton), PERCIVALL, JAS. TURNER, ROBINSON, GODWIN, PRITCHARD, ERNES, WILKINSON, SILVESTER, HENDERSON, ARTHUR CHERRY, CHERRY, sen., W. GOODWIN, and SPOONER (Professor).

The minutes being read and confirmed, and the notice convening the meeting having been read,

The President stated, that he had received a note requesting a meeting with Professors Spooner and Simonds, and that he, together with the Secretary and Treasurer had met those gentlemen; that certain discussions had taken place on the by-laws; that, in consequence, the Secretary had taken down the heads of the propositions submitted by those gentlemen (the Professors), which the Secretary would lay before the Council.

The Secretary then read these propositions: they were to the effect, that the apprenticeship clause should be given up—that the term of attendance at the schools should be three years—that the fees on the admission of members should be reduced—that those who held foreign diplomas should be eligible to present themselves for examination after one year's study at the schools.

Mr. Ernes thought that there was irregularity in these proceedings; that a meeting of so much importance should not have taken place without the concurrence of the Council; and that the propositions could not be entertained unless they were brought before the Council in a proper form.

The President explained. He considered that he was not acting out of order in granting the meeting; that no pledge had been given by those who had acted with him, or by himself, to support or carry through these propositions.

Mr. Ernes still thought that the proceeding was irregular: he considered that a Committee should be appointed to examine into and report on the by-laws.

Mr. Arthur Cherry agreed with *Mr. Ernes* as to the appointment of a Committee; but he must bring before the Council the fact, that the notice of motion upon which they were summoned that evening was not only irregular, but illegal. The notice stated, for "*the revision of the by-laws.*" Now, that did not require three months' suspension; but it was requisite that the proposed alteration, amendment, or proposed new rule or order should be suspended for three months: this latter had not been done, therefore the Council could not entertain the question. He referred to and read the clause in the Charter specifically directing such matters.

Mr. Robinson inquired if by this omission this meeting was not valid to entertain the question.

Mr. Arthur Cherry replied, certainly not ; the Charter must be complied with.

Mr. Robinson then the meeting must break up, and notice of the proposed alterations must be suspended for three months ; or that this meeting might now enter into the consideration of the question before them, and then adjourn from the last meeting for three months.

Mr. Arthur Cherry replied, strongly repudiating such a course, as being totally impracticable, in direct variance with the clause in the Charter, and therefore invalid. There was only one way in which the difficulty was to be overcome, and at the same time render the business of the meeting perfectly legal ; and he should put a motion for this purpose, namely, " That the Council take into consideration the propriety of revision of the by-laws : " other motions would follow upon this.

Mr. Wilkinson considered that the meeting could not entertain the original notice upon which the meeting was commenced.

Professor Spooner took the same view.

Mr. Arthur Cherry pressed his motion : it was the only way in which the question could come before the Council on that occasion.

The Secretary said, that whatever omission or error in the notice there might be, he must bear the blame of it.

A general discussion and explanation ensued, and the motion being put, it was carried.

The Secretary, as the mover of the original notice, was then asked what he had to offer in explanation : he replied, that he had nothing to say.

Mr. W. C. Spooner said that the country practitioners with whom he had conversed wished to see an amicable arrangement of differences with the schools, and thought that there ought to be more country practitioners on the Council.

Mr. Henderson replied, that when there were such gentlemen as *Mr. Peech*, *Mr. Burley*, *Mr. Pritchard*, *Mr. Godwin*, *Mr. Silvester*, coming some as far as 200 miles to attend the meetings of Council, it was a refutation to the idea that country practitioners were not on the Council.

Mr. Arthur Cherry.—It often happened that a considerable portion of the Board present were country members.

Professor Spooner, after a few desultory remarks, read legal opinions from *Sir Fitzroy Kelly*, *Messrs. Peacock* and *Matthew Hill*, regarding certain portions of the by-laws touching their legality.

Mr. Arthur Cherry replied, that all the opinions given by those legal gentlemen and then read, amounted to little or nothing ; they

only told us what we could not do; but it so happened that these things had not been done, nor even attempted to be done.

Professor Spooner objected to the by-laws, and also to the Charter, as regarded some of the provisions therein contained.

Mr. Percivall asked the Professor if his name did not appear as one of the petitioners for the granting of a Charter.

Professor Spooner said it did; but that he was not aware of the nature of the document, or it should not have been there.

Mr. Percivall.—If any one else had told me that Professor Spooner had signed his name to a document of the nature of which he (Mr. S.) was ignorant, he would not have believed him.

Mr. Ernes pressed for the appointment of a Committee.

The Secretary read a long letter from Mr. Walton Mayer, the object of which appeared to be, that an entire alteration should be made in the by-laws.

Mr. Ernes moved, "That a Select Committee be appointed to take into consideration the present by-laws."

Mr. Arthur Cherry seconded the motion.

It was argued by several members, that the Committee should be empowered to treat with the Governors of the Royal Veterinary College.

Mr. Henderson opposed this, and said that we had no right to dictate in any way.

Mr. Arthur Cherry also opposed this. The Council alone could and ought to enter into negotiation with the principal governing bodies of the schools, supposing that such parties felt disposed to treat.

Mr. Cherry, sen. considered it more respectful for one governing body to treat with another governing body than for a Committee to do so.

The motion being put, was then carried.

It was then put, "That the President, the Secretary, Messrs. Field, Ernes, Pritchard, Arthur Cherry, T. W. Mayer, Percivall, and Robinson, should form the Committee: which was carried, there being no opposition, nor to any of the motions that were put during the evening.

Mr. Arthur Cherry then moved, "That the President and Governors of the Royal Veterinary College and of the Highland Society of Scotland should be informed of the intention of the Council to reconsider the present by-laws," which was put and carried.

It was also understood, that the Committee were open to receive any communications or suggestions on this subject, and that they would report thereon to the Council.

Adjourned.

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CONTRIBUTIONS TO THE PATHOLOGY AND PRACTICE OF
VETERINARY MEDICINE.

By W. HAYCOCK, *Veterinary Surgeon,*
(Member of the Veterinary College, Edinburgh)
King Street, Huddersfield.

SECOND CONTRIBUTION.

Congestion of the Lungs, &c.

CASE I.

April 3d, 1843.—Was requested to attend upon a horse belonging to Messrs. J. S. and Brothers, farmers, &c.

History, &c.—The animal is of a bay colour; of the light draught breed; is now six years of age; stands fifteen hands two inches and a half high; has been the property of the present owners about eighteen months, and during that period he has been occasionally subject to severe attacks of colic; the owners have never considered him a strong constitutioned animal; he would perform his work well and cheerfully, but if exerted beyond a moderate degree, he failed in his appetite, and required a day or two to recruit his energies. Yesterday was one of his extra days, and last night he refused his food; but beyond this, nothing more was remarked; and it being a matter of common occurrence, no further notice was taken at that time: this morning, however, one of the men employed at the farm went into the stable and found the horse exhibiting symptoms of serious illness, and I was soon after requested to attend.

Present Symptoms, Treatment, &c.—When I arrived, the animal was standing in the stable, and from the appearance of the wall, the ground, the wood work of the stall, and the hind legs of the horse, he must have been severely purged during the night; for large quantities of thin fecal matter were scattered about. The place being somewhat dark, I had the animal brought out for better inspection, which was done with some little difficulty. The respirations were sixteen per minute, deep and heaving in their character; the pulse could not be detected at the jaw; the nostrils

were dilated to their full extent, and the mucous membrane thereof was of a dark purple colour; the breath which issued from the nostrils was cold; the muscles of the body and limbs were in a severe state of tremor; and partial cold sweats bedewed the parts externally; the perspiration also ran in drops from the hind extremities; the nose, the ears, and limbs were deathly cold; he stood obstinately in one place, and paddled the ground with the hind feet. The eyes had a strange wild look with them, and the pupils were fully expanded; every few moments he elevated his head, and neighed loudly. It was with difficulty he could be moved from where he stood; he appeared, in fact, in a state of half consciousness, or in a peculiar state of stupor. On applying my ear to the chest, I heard a blowing sound, but the sound had little or no hollowness in its tone; it was short, and dead in its character, and seemed to come entirely from the mere external surface of the lungs (for the sound from both sides and all parts of the chest was the same). From such a combination of well-developed symptoms, I concluded the case to be one, at first, of internal hemorrhage, and proceeded at once to administer a powerful stimulant, which consisted of half a pint of strong whiskey, diluted with about the same quantity of water; I then had the animal well clothed with thick rugs previously made warm; the extremities rubbed, and afterwards bandaged. In about twenty minutes after the stimulant was given, he appeared better; he ceased neighing, and also paddling with the hind feet, and I detected a feeble action in the artery of the jaw; the stupor partially subsided, and he became more manageable. These favourable symptoms, however, had but a transitory duration; a state of weakness rapidly supervened; the stupor again fully manifested itself, and the eye resumed its wild aspect; and about eleven o'clock he fell, and died almost without a struggle.

Examination thirty minutes after Death. State of the Abdominal Viscera.—The stomach contained a small quantity of half-digested food; the small intestines were nearly empty; the cæcum and colon contained a moderate portion of semifluid matter; the rectum was empty, or very near it. The mucous membrane of the small intestines exhibited here and there blotches of a faint crimson colour. I could not be certain that such colour was the result of disease; it amounted, in short, to no more than a faint blush: similar appearances were presented over the mucous tissue of the large bowels, but the blotches were not so numerous. The liver was large, pale in its colour, and very friable. I easily broke up its structure with my fingers, and the broken portions presented the granular texture so common to this organ in states of disease.

State of the Thoracic Viscera.—On opening the chest and exhibiting its contents clearly to view, I was surprised at the state of

the organs exposed. The lungs appeared to be little if at all collapsed; and instead of the pale pink tint which they usually shew under such circumstances, they more resembled large masses of coal than any thing else I could compare them with; more especially the right lung, which was filled in every part with very dark coagulated blood. On cutting into the organs, a little serum flowed after the knife; and what was remarkable, when the coagulated mass was fully spread or exposed to the atmosphere, scarcely any perceptible change took place in its colour. The blood appeared as though it had become so vitiated as to be incapable of assuming the hue of arterial blood. The heart was firm in its muscular structure; its right cavities were perfectly empty, while its left ones were filled with the dark blood common to the lungs, and, in addition, the left ventricle contained a portion of separated fibrine. The organ, when divested of its extraneous parts, weighed seven pounds five ounces avoirdupois. The trachea contained a great quantity of frothy spume, and its mucous membrane was slightly livid.

Brain, &c.—The vessels of the brain contained dark blood: its structure, however, was firm, and its colour normal: a small portion of serum was found at its base, but beyond this I failed to detect any other change: the quantity of serum could not have been more than half a teaspoonful. The spinal cord I did not examine. The muscular apparatus was normal, and also the urinary organs.

CASE II.

Dec. 12th, 1844.—Was requested by a gentleman in this town to attend upon his pony.

History, &c.—The animal is a mare of a dark-brown colour, and stands exactly twelve hands high; is considered by the owner (whose property she has been for the last eleven years) to be about fourteen years of age; she has always been a very good and remarkably healthy little animal until within the last few days, when she began to cough, and her appetite to fail her in some degree, which state was attributed to having had her clipped. This morning, however, she appeared to eat with her old zest, and, in consequence, she was very liberally supplied with corn and hay. Soon after eating her ration she was put into harness, and driven for many hours through different parts of the country, and at every place where the owner's business required him to stay for a short time she was tried either with water or food, which the animal refused upon every occasion. About two o'clock in the afternoon she commenced purging violently; and, according

to the owner's account, the quantity of brown watery matter which she continued to part with was really incredible. In returning home, about half-past four o'clock, and when near the town, she began to stagger, and exhibit a state approaching unconsciousness; she was immediately unharnessed, and with great difficulty got home.

Present Symptoms.—The animal is standing in the stall; its limbs wide apart; the body has a slight swinging motion; the nose is held near the ground, and the head is placed between the fore legs; the neck is thrust very close to the manger; every now and then the pony neighs, and pushes its neck with greater force against the wood-work; the respiration is slow and heaving; the extremities are icy cold; the pupils are dilated, and the eyes insensible to the light of a candle; the pulse cannot be detected at the jaw, nor the action of the heart against the ribs of the left side. If I attempt to move the animal, her limbs appear useless; she staggers, and would fall if not held up; the mucous membrane of the nose is blue, and the breath is cold; partial sweats cover many parts of the body; rumbling sounds are heard in the abdomen, which is swollen and tense; the mouth dry and cold, and the tongue a little soapy.

Treatment.—My treatment consisted in the giving of powerful stimulants, and doing every thing I could to rouse and keep up the vital energies; but all proved abortive; the animal fell, and after remaining in a state of complete stupor for many hours, she died.

Examination six hours after Death. State of the Digestive Organs.—The stomach was capacious, and contained a large quantity of food, consisting of corn and hay, which did not appear to have undergone the least change from the action of the gastric juice; the cuticular and villous surfaces of the organ were pale, and free over every part from any redness of colour; this, in fact, was the general state of the entire mucous surface of the intestinal canal, save one small portion at the termination of the duodenum, at which part a small bulbous-looking projection existed; and on laying open the bowel, I found it to arise from a ball of half-digested hay, closely impacted in a fold of the intestine; and that portion of the mucous surface in immediate contact with it was deeply injected with blood, and a thin layer of blood also coated the surface of the hay: beyond this the small intestines were empty. The cæcum and colon contained a great quantity of fecal matter in a semifluid state. I never saw organs present so bloodless an appearance before; and the same fact I observed with respect to the body in general, when the skin was removed.

Contents of the Chest.—The lungs contained a quantity of dark

blood, but not more, I think, than what is usually found in cases of disease after death: they were crepitous, and free from all change in their structure. The heart was normal; its left ventricle contained a little coagulated blood. When divested of its vessels, fat, &c. (of which there was only a very small quantity) it weighed six pounds nine ounces and a half avoidupois.

Brain, &c.—The brain I examined in detail very carefully, but failed to detect any thing peculiar about it; its superficial veins were filled with dark blood, and about a table spoonful of serum existed at the base of the organ; its ventricles were healthy and its substance firm. The nerves and spinal cord I did not examine.

CASE III.

Jan. 17th, 1845.—Was requested to attend upon a post-horse in the town.

History, &c.—The animal is a black one, eleven years of age, and has belonged to the present owner about four months, who resides a considerable distance from here. The common employment of the horse was that of running an omnibus: for several days past he has stood at rest in the stable. This morning he was fed as usual, and immediately after eating his food he was harnessed and driven with a heavy chaise from the residence of the owner to this town, a distance of fourteen miles; and the day being wet, and the atmosphere very close, the animal in coming into the town was greatly distressed, and all at once he manifested symptoms of illness; he was now put up as speedily as possible, and I was requested to attend.

Present Symptoms.—The horse stands in the stable with the fore and hind extremities so placed as though he was about to stale. The head is held down, and the neck is pressed close to the wall, against which he pushes with all his force; partial sweats are visible; the limbs are deathly cold, and on placing my ear against the chest, in whatever part I choose, a loud, blowing, and rumbling noise is heard. On pulling the animal back, so as to free the neck from the wall, I find the pupils of the eyes dilated, the Schneiderian membrane blue, and the pulse beating at 30 per minute: the action of the artery is peculiar; the pulse is like a wave under the finger; its motion is slow, strong, and heaving; the mouth is clammy, and the respirations are 16 per minute. When the head was liberated, he first turned his nose close to the back part of the elbow-joint of the left side, at which side he seemed to look with an expression of countenance indicative of deep pain and anxiety.

Treatment, &c.—My treatment consisted at first of bleeding,

hand-rubbing the extremities, bandaging them, and warmly clothing the body; the administration of a powerful stimulant, back-raking, and injections; and towards night I gave a strong dose of purgative medicine. I abstracted twelve pounds of blood; at the commencement the colour was black, and ran down the side of the neck in a very tardy current; but an improvement very soon took place both in the colour and the motion of the fluid. In half an hour after the above-named quantity of blood was withdrawn and the stimulant given, the pulse rose to 50 per minute, and entirely lost its hard, heaving character; the warmth also returned to the extremities; the head was held in its proper position, and the animal stood perfectly quiet in the stable. From this time he continued to progress; the day following the purgative medicine operated freely, and on the 20th he was removed, to all appearance well and hearty.

CASE IV.

Dec. 24th, 1845.—Was requested to attend upon a horse, the property of a tea dealer in the town.

History, &c.—The animal is of a brown colour, of the cob kind; stands fourteen hands two inches high; is rising nine years of age, and has been the property of the present owner about three years and six months, during which period he has never suffered in the least from disease. He is used for travelling purposes, and his journeys at times are long and heavy. This morning he was ridden a journey of fourteen miles, and when he arrived at the end (the day being uncommonly wet and cold) he was in a very uncomfortable state, in which condition he was placed in an old stable, and whether he was groomed or fed I could not ascertain. The traveller, on going for him in the afternoon, about half-past three o'clock, found him trembling violently, and thinking he was only starved, he mounted and started home at a brisk pace. After riding about two miles, the horse commenced purging, and continued to do so more or less, at short intervals, all the way home. Shortly after the purging commenced he became sluggish and weak; so much so, indeed, that the rider was compelled to dismount and lead the animal, and it was with great difficulty that he got him home, which he did between six and seven o'clock in the evening.

Present Symptoms.—The horse is standing in the stall; the body and limbs are very wet and cold; the fore and hind extremities are wide apart, and the body swings, as it were, between them; the respirations are seventeen per minute. The head is placed between the fore legs, and the neck is pushed very firmly

to the manger; he occasionally paddles with the hind feet, and every minute or two he gives utterance to a loud neigh; the membrane of the nose is blue, and the breath cold; the pupils of the eyes dilated, and the eyes themselves insensible to light; the pulse is gone at the jaw, neither can I detect the action of the heart against the left side. On applying my ear to the chest, no matter over what part, rumbling and blowing sounds are heard; the animal is doggedly stupid, and it requires great exertion to move him.

Treatment.—In this case I used every means in my power to rouse the vital energies. I administered a large dose of brandy and warm water; set three men to hand-rub and clothe him warmly; but all the measures I could adopt proved abortive, and the animal died about half-past nine o'clock the same evening.

Examination twelve hours after Death. Abdominal Viscera.—The stomach contained but little food, and that appeared in a forward state of digestion. The small intestines were nearly empty, and a large portion of their mucous surface was of a dark dull red-looking colour. The large intestines contained a deal of fecal matter in a liquid state, and when I opened them a large quantity of gas was liberated; but I failed to detect in their tissues any signs of inflammatory action.

State of the Lungs, Heart, &c.—On opening the chest and fully exposing its contents, I was surprised at the great bulk of the lungs. On cutting into their substance, every portion of them appeared crammed with blood, which blood was black to a degree: some of it was semifluid, and resembled treacle or tar; other portions, again, were coagulated in long small masses of about the thickness of a tobacco pipe. The trachea and bronchial tubes contained frothy spume, and the mucous membrane of these parts was much injected, and of a blue colour. The heart was firm in its muscular substance; both its ventricles were filled with the dark blood peculiar to the lungs; and the serous membrane lining these cavities was of a dark blue tint, which tint, I believe, was owing to the tissue being in immediate contact with the dark blood; for nothing of the kind was present on the serous membrane lining the auricles; the valves and bloodvessels of the organ were perfectly healthy, and its weight, when divested of the above, was exactly seven pounds eleven ounces avoirdupois. The pleura costalis was normal, and the chest contained about one pint of serum.

The Brain.—The vessels of the brain were full of blood, which was not so dark as that contained in the lungs and the heart. A small quantity of serum existed at the base of the organ, and the left lateral ventricle contained a very small portion likewise; its

colour and substance, however, were perfectly healthy. The nerves and spinal column were not examined.

Remarks.—The four cases present, in their origin and general symptoms, many characters in common, not only in an outward aspect, but likewise in the morbid states of the great organs of life; the principal outward symptoms common to the whole being great difficulty in breathing, blueness of the mucous membrane of the nose, cold breath, partial sweats, deathly coldness of the body and limbs, dilatation of the pupils, partial loss of vision, and excessive stupor. The chief state and symptom common to the first, second, and fourth, viz., the purging and the neighing, also deserve notice; while in the second, third, and fourth, we have present the boring against the wall and manger with the neck; and in the first and fourth, the paddling with the hind feet are conspicuous symptoms. In the first case, the boring with the neck was not evinced at all. In the third we find the pulse beating at the rate of 30 per minute, and its action peculiar; in the other three, no pulse could be detected whatever, which, without doubt, arose from the disease in these cases being further advanced when I was called in. With regard to the cause of the various conditions in the cases enumerated, the disease in the first, second, and third, appears to have had its origin more as a secondary than a primary affection; the purging in all of them had been excessive: this, in combination with the exertion they were impelled to undergo, and more particularly in the last case, associated as these were with wet and cold, so lowered the vital energies as to induce hyperæmia of the lungs; which, when once established, proceeded to a fatal termination with a rapidity really surprising. In the third case, I regard the disease more as a primary one, or as having an immediate origin from over-exertion in a close thick atmosphere. Congestion of the lungs, no matter from what cause, would produce a twofold effect; the first special, and the other general in their nature. The special effect would consist in the blood being prevented from undergoing that change necessary to the maintenance of life; and, secondly, this impure blood being forced into the system at large, with most, if not all, of its poisonous qualities within it, would give rise to a variety of effects, the most conspicuous, however, of which would be a change of animal temperature, and a depression or total obliteration of the cerebral functions; hence the reason of the deathly coldness and excessive stupor of the animals, so decidedly manifest from the very onset of the affection. It will thus be observed, that I do not regard the brain as being primarily affected in any one of the above cases; the stupor was simply the effect of the brain not receiving its

healthy stimulus, the stimulus which pure blood alone can yield. The effusion of serum at the base of the brain most probably occurred after death, when the vessels had become relaxed from loss of tonicity in their component tissues.

It is very surprising that this disease, so fatal as it is, and must from its very nature continue to be, unless proper measures are energetically adopted to arrest its progress, should be entirely omitted from the works of every veterinary author with which I am acquainted, save that of Mr. Percivall's, in which a short description of it will be found under the denomination of "Congestive Pneumony;" the account, however, in this instance is very brief, and of necessity incomplete.

Certainly it may be urged, that, when this disease manifests itself in the horse, it more frequently does so rather as a secondary than a primary disorder; but this is of no consequence, for the veterinarian in either case has to cope with no less a reality; and, in short, such a fact more forcibly proves the necessity of its pathology being better understood, in order that its insidious commencement may be at once detected, and, if possible, its fatal termination checked. That it does occur somewhat as a primary disease, is proved by Case III in the present paper; and I attribute the recovery of the animal solely to the promptness of the remedial measures taken: had it been allowed to linger a little longer, possibly no earthly power could have availed in the matter.

With regard to the treatment of this disease, a few observations respecting it may not be out of place. Mr. Percivall says that "Blood-letting is the only remedy to save a horse in this state;" but with this I do not altogether agree. The necessity for bleeding will depend entirely upon the stage the disease may have attained when the veterinarian is called in. Should he be so fortunate as to arrive at an early stage of the proceedings, and find the pulse presenting that hard, heaving character, the abstracting of blood will be attended with speedy benefit; but if the pulse cannot be detected, and a deep state of unconsciousness be present, bleeding at such a stage would be very questionable. Powerful stimulants must first be had recourse to, and every means adopted the tendency of which are to rouse the natural energies; then, if he succeeds in this respect, bleeding might possibly prove of great benefit.

One apparent difficulty which may occur with respect to this disease is, that it might be mistaken for hæmorrhage of some of the internal viscera, the symptoms in many respects being precisely similar. In hæmorrhage of the liver, for instance, the patient becomes deathly cold: partial sweats exist, attended with loss of

pulsation at the jaw; dilatation of the pupils; loss of vision, and, towards the last, excessive stupor or unconsciousness. By a close inquiry, however, into the previous history of the animal, and carefully regarding the symptoms both separately and collectively, the wary practitioner will experience, perhaps, but little difficulty in deciding the true nature of the case.

THE CAMEL (DROMEDARY VARIETY).

By J. T. HODGSON, Finchley.

THE Honourable East India Company's breeding flock graze over the provinces of Delhi and Aginere throughout the year, without shelter, and are sheared and oiled in April or May. They get a little salt monthly, and now and then cordials. The males go with the flock, one to fifty females. The females produce from November to April; and they will not take the male again for a year, if the young lives: if it dies before April, they take the male again this season. They have been forced when their young were alive, but they never held. The young are weaned at eighteen months. Twins had never been produced, and there were upwards of 2000 females. The camel-people say they are produced occasionally, but very seldom, and always dead; and it is considered unlucky to keep a female camel that has produced twins. The first year about 8 per cent. cast their young; the two last years, owing to the extreme heavy and continued rain, were very unfavourable to camels: 10 and 14 per cent. cast; say, average 10 per cent. Barren camels are rare; of the 2000 females, 1000 take and hold to the male yearly on an average. Difficult births are very rare. The female produce take the male at about two-and-a-half or three years old.

The natives give the female the male at two years old. The female goes twelve months with young. If the female is kept too long without the male, they do not hold so often. Males are used to breed from by the natives at four years old, but, as improvement was the object, not till five years old in this flock. About four-and-a-half or before five years old the central milk teeth are changed, two the next year, and two more the year after. The four tusks are changed by the time they are eight years old. The male produce are caught at four-and-a-half or five years old, are broken in easily in ten days, and sent to the army: they are in prime at nine, and live till twenty. As the male camel is apt to be vicious, and to bite, particularly in the breeding season, some were gelt: the army, however, thought gelt camels did not work so well as entire ones. The ordinary food of a camel in work with

the army is three pounds of grain and twenty pounds of chaff; extra work, six pounds of grain; but with an army in the field, they are sometimes, of necessity, without either allowance. The camel people, who hire out camels, never give grain or chaff, but browse their camels after every day's march; and they are generally in condition, i. e. comparative condition. What flesh they have is hard, but under fatigue they, of course, would not last so long in the field as the commissariat camels. A good camel with 480 lbs. load will go four miles an hour. A good riding camel will go from Hissar to Delhi (108 miles) in eighteen hours, take two hours rest, and return to Hissar in eighteen hours more. The night before starting the camel is fed with six pounds of grain (pulse) and twenty pounds of chaff. Two hours before starting two pounds of clarified butter, one pound of alum, and one pound of long pepper, is given, and repeated midway between Hissar and Delhi, where the camel is fed with six pounds of grain, and another dose of the butter, alum, and pepper. When the two hours' rest are over, the express camel rider remounts, and, on arriving midway between Delhi and Hissar, on his return, gives another dose of butter, alum, and pepper, and arrives at Hissar in the thirty-eighth hour after he left it, and gives his camel grain, chaff, butter, alum, and pepper. Now this is upwards of five-and-a-half English miles per hour; consider, too, the climate is a tropical one. Contrast the powers of these animals, under these circumstances, with ruminant animals, under other circumstances, known to us all in Europe, and then wonder not that there are diseases, but not indeed among town cows. The camel there in a state of nature is subject to fever (*pokdar*); the natives are aware that the disease is contagious, and separate the diseased from the flock: it is the same disease (the German pocken) all over the world.

* * ON THE IMPORTATION OF CATTLE.—Dr. Joseph Sweeny, of Cork, in a letter printed in "The Mechanics' Magazine" of a recent date, makes the following remarks on the "Londonderry" catastrophe: "Cattle have been often suffocated in ships from want of proper ventilation."

In 1824 Dr. J. Sweeny proposed the method he now describes, stating that "shippers of cattle would, no doubt, patronize vessels so provided with ventilation."—Vide "Morning Advertiser," 26th Dec., 1848.

I have objected to cattle being put down in the hold, and still do so, though ventilated, as described, because ventilation does not entirely prevent fever; it only diminishes the malignancy. Take, for instance, horses, camels, cattle, sheep, in India: in many parts they are without shelter throughout the year, yet they have fever.

LAMENESS IN HORSES.

By WILLIAM PERCIVALL, *M.R.C.S. and V.S.*

[Continued from p. 73.]

BLOOD-SPAVIN.

IN Hunter's "Complete Dictionary of Farriery and Horsemanship,"—"compiled from the best authors"—blood-spavin is described to be "an enlargement of the vein which runs withinside a horse's hough, forming a little soft swelling in the hollow part, which is pliant to the touch, and is frequently productive of weakness or lameness of the part. When this disorder is in its infancy, it will frequently give way to the use of spirituous and saturnine applications," &c. But "if, after following this mode of treatment for a sufficient length of time to insure success, &c. there should appear little or no amendment, the (following) blistering application had better be tried."

After such a declaration as this, on the authority of the "best authors," were we to refuse to entertain the subject of "blood-spavin," we might justly be said to lay ourselves open to animadversion for offering no opinion on what was regarded and treated as a *disease* by our ancestors in the practice of "farriery." We feel we have no right to treat either them or the public with such "contemptuous silence;" but, on the contrary, are called upon to divulge what the result of our own experience has taught us concerning the asserted "enlargement of the vein," which is said to be "frequently productive of weakness or lameness in the part."

A common accompaniment of bog-spavin—nay, almost a constant accompaniment whenever the tumour is full and prominent—is distention of the *vena saphena*, or main superficial vein of the hind limb, at the place where it meets with the bog spavin, over which it passes in its course to the thigh. That pressure made against the vein by the tumour should produce some impediment to the flow of blood through it, and so cause the vessel to become full or distended at this particular part, is no more than one might expect, and what, in fact, does happen. But to say that the vein in consequence becoming "enlarged," or, in surgical language, becomes *varicose* from this pressure, is more, we must confess, than we have been able to convince ourselves takes place. We believe the fulness caused by the pressure against the vein to amount at greatest to no more than distention of the vessel; we have never had reason to suppose that any actual dilatation or "enlargement" existed; and therefore, for our own part, we must

be content to dismiss the subject with the remark, that it would appear as though the bulging of the capsule of the hock-joint had been confounded with the distention of the vein, or, in other words, that the tumour was thought to arise from the latter; and that this supposition would the more readily be entertained from the circumstance of blood, and not joint-oil, being found to issue whenever puncture was made at the place where naturally it would be made, to let out the contents of the swelling, viz. the most prominent or *pointing* part of the "enlargement."

THOROUGH-PIN.

A THOROUGH-PIN MAY BE DEFINED TO BE, a windgall *running* from side to side *through* the upper and back part of the hock.

THE NAME OF "THOROUGH-PIN" owes its derivation to this "running through" or *thorough*; it being originally taken from the French *vessignon chevillé*, which means precisely the same thing as our *through* or *thorough-pin*.

THE SITE OF THOROUGH-PIN is notorious enough. It occupies the floor of the hollow interval at the supero-posterior part of the hock, between the joint in front and the tendo Achillis behind; reposing, as it were, after the manner of a cushion placed transversely, upon the joint beneath.

FELT on either side, it has all the sensible characters of windgall; and the fluid it contains is readily made, by pressure or pulsation with the fingers, to fluctuate from one tumour to the other, shewing that free communication exists between them. In fact, to external examination the swellings appear as though an oblong bladder or windgall had become formed here, and that it was compressed or nipped together in the middle by some narrow pass it had to permeate.

This is the ordinary but not invariable seat of thorough-pin; for, on occasions, the tumours exhibit a more spread-out aspect, and are broad or even diffuse instead of being spheroid or ovoid and circumscribed, and so extend downward upon the sides of the hock; though this latter is a remark more applicable to the tumefaction upon the outer side.

THE TUMOUR IS NOT NECESSARILY THOROUGH, or *chevillé*. Sometimes it is confined to one side; and more frequently, we believe, in this single form, will the swelling be found outward than inward. Such cannot, strictly speaking, be called *thorough-pin*, although in nature the tumour nothing differs from it. When true thorough-pin is present, however, the inner tumour is generally the larger or the more prominent of the two.

TRUE THOROUGH-PIN IS RARELY OR NEVER SEEN WITHOUT

BOG SPAVIN, although bog spavin, in the majority of instances, is unattended by thorough-pin. The pathology of thorough-pin will explain this seeming paradox.

THE CAUSES OF THOROUGH-PIN, so far as they are immediately *exciting*, may be said to be the same as produce bog spavin. A hock that is over-weighted or over-worked, over-stretched or strained in any way beyond its powers, will be likely to put out a bog spavin, and afterwards may shew thorough-pin. And, as was observed on another occasion, this may be expected to happen to young horses in particular at the time of breaking, and especially to such as have great frames with large bony joints.

IN RESPECT TO PREDISPOSITION, straight hocks are more liable to bog spavin and to thorough-pin than those of an opposite formation. On this account, young horses with such predispositions should have attention paid to the shoeing of the hind feet. Since caulking may be likely, by raising the heels and so still further straightening the hocks, to add to this susceptibility, it will generally be found advisable to have such horses' hind shoes made plain in the heels. Solleysell, who treats of these affections under the general heading of "windgalls," says, that "this disease (seated between the great sinew of the hock and the thigh bone) is often *hereditary*, and derived from the stallion." And, so far as conformation of hock goes towards predisposition to the disorder, we quite agree with Solleysell.

THE PATHOLOGY OF THOROUGH-PIN is analogous to that of bog-spavin. It consists in anormal accumulation of synovia in the joint of the hock, and consequent dilatation and bulging of the capsular ligament. The cavity of the hock joint may be said to be naturally divided into two compartments by the trochleated adaptation of the tibia to the astragalus. So long as the joint is at rest and the animal is bearing his weight upon it, all communication between these two compartments of the joint is shut off; while, on the other hand, the joint is in motion, and especially so long as the hock is flexed, and all bearing is taken off it, it is possible for fluid to pass from one compartment into the other. Moreover, at the places where thorough-pin makes its appearance, viz., between the lateral processes of the lower head of the tibia and the os calcis, the capsular ligament of the hock joint is but comparatively loosely attached, or rather, in the relaxed state, *bags* a little; and, being in those parts without any embrace outwardly from ligament or tendon, the moment accumulation takes place within the joint, the capsule at the said places bulges and protrudes at the sides, and so produces the tumours we denominate *thorough-pin*. This view of the pathology of thorough-pin ex-

plains why the swellings disappear at the time the hock is flexed, and re-appear the moment the act of setting the foot down upon the ground causes extension of the joint. Flexion occasions tensions of the capsule and pressure of the fluid (*synovia*) into the interior of the joint; extension, on the contrary, relaxes the capsular ligament, while the reflux of the fluid into it occasions the bulging; the bulging taking place at the sides for the reason of there being thereabouts no ligaments or tendons to oppose the protrusion. We now perceive the reason, too, why thorough-pin has no existence independently of bog spavin. Both anomalies consisting in distention of the hock-joint with synovia, the pressure of the fluid being greatest below, and the capsular ligament being least supported on the inner side, the bulging will take place there—in the site of bog spavin—the first; and when that part has become so distended that resistance begins to be set up—from the skin, and perhaps the vein, as well as the capsule itself—then does the fluid (supposing accumulation still to be going on) make its way into the upper compartment of the joint, and produce thorough-pin. Consequently, in the normal or ordinary state of parts, thorough-pin must for its presence be completely dependent upon bog spavin, though bog spavin does not necessarily entail thorough-pin.

Although we feel no apprehension about this account being perfectly intelligible to persons in the profession who are acquainted with the structure of the hock-joint, yet we are apprehensive it may turn out in some respects not to be altogether so to persons out of the profession; to whom all that we can, by way of solution, recommend is, a view of the parts themselves, either in skeleton or preparation. The fluctuation felt in either tumour while the one opposite is being tapped with the fingers is now likewise perfectly comprehensible. There is evident communication between the swellings, and this we now know to be through the intervention of the hock-joint.

Thorough-pins, chronic in their nature, existent in hocks undergoing, or that have undergone, great and continued stress from work, with time experience changes, which, if not alike in degree or intensity, are similar to those we have detected in bog-spavin. Old thorough-pins, under circumstances stated, lose their pliancy of feel, their elasticity and their fluctuation; they acquire a substantiality of feel they never possessed before, and are evidently suffering from inward deposition approaching to consolidation. To what extent such changes of structure have gone, or may go, we must ask those who have had opportunities of dissecting thorough-pinned hocks advanced in disease to kindly inform us.

OF LAMENESS FROM PURE THOROUGH-PIN we know of no example on record;

TREATMENT, therefore, will hardly be called for.

WINDGALL OF THE TENDO ACHILLIS.

Dearth of names for diseases compels us on occasions, as in the present instance, to substitute some paraphrase designative of their seat or nature, or of some other striking attribute, for an appropriate appellation. The French call this disease *vessignon soufflée*; and it has something the appearance of an inflated bladder, running along the "hamstrings" or united tendons of the gastrocnemii muscles. These tendons are enveloped in a cellular sheath, and between is a thecal cavity or sort of *bursa*, lined with synovial membrane, and lubricated by synovial fluid; and this interspace or cavity it is which is the seat of the disease now under our consideration: it consisting, like windgall, in an undue secretion and collection of the synovial fluid.

WINDGALL OF THE TENDO ACHILLIS is comparatively rare. Now and then it is complicated with thorough-pin, but is rarely or never an accompaniment of capped hock.

THE CAUSES of this tumefaction being some extraordinary or unexpected tug, stretch, or strain of the hamstrings, and partaking as it sometimes does more of the nature of thecal sprain than of pure windgall.

LAMENESS IS AN OCCASIONAL ACCOMPANIMENT, a constant one Hurtel d'Arboval says; but our own practice has not appeared to confirm this. Should lameness be present, the case, of course, would call for

TREATMENT.—And this should be commenced by the lengthening the caulking of the shoe of the lame limb; it being of great consideration towards cure to diminish, to the utmost possible extent, the dragging action of the muscles upon the tendons. This done, spongio-piline fomentation, evaporating or discutient lotions, a brisk cathartic, and absolute repose—the latter to be continued so long as lameness exists—will in time effect restoration of soundness, though tumour will still, to a greater or less extent, probably remain; to get rid of which we must employ iodine and mercurial ointments, or, if it be thought worth while, sweating blisters.

WINDGALL OF THE KNEE.

The large extensor muscle of the cannon (*extensor metacarpi magnus*), and the principal extensor muscle of the foot (*extensor pedis*), taking their origin high up upon the arm, a little above the knee become tendinous; and their tendons, as they pass underneath the anterior annular ligament, run through synovial sheaths, furnished with *bursæ mucosæ*. These vaginal bursæ frequently—indeed commonly—are found to communicate with the middle

joint of the *carpus*—the articulation formed between the two rows of small bones; consequently, the synovial fluid freely passes during the motions of the knee-joint from the bursal cavity into that of the joint, and *vice versâ*.

IT IS THESE (*carpal*) BURSÆ which are the seats of the disease called “windgall of the knee.” They become enlarged in consequence of anormal collections of synovia in this middle compartment of the knee-joint; and the augmented secretion of fluid is probably owing to causes similar to such as have been already detailed as occasioning the same in other bursæ connected with joints.

The disease is so very rare that there are veterinarians, probably, who may have never seen it. When present, it discovers itself in the form of one or two small round tumours in front of the knee, which from their elasticity and fluctuation evidently contain fluid, and which may, while the foot is off the ground and the knee-joint relaxed, be in general, by pressure, emptied of their contents. They are productive neither of lameness nor inconvenience, and are thought nothing of, save they should happen to offend as eye-sores. Strong stimulating applications or blisters might, were it desired, reduce their magnitude; though in general, when they do exist, as soon as their innocuous nature comes to be explained, but little heed is taken of them.

We remember seeing, a great many years ago, a very fine three-parts bred covering stallion, called ALFRED, the property of Major Talbot, of Stone Castle, near Dartford, who had a tumour of this description directly in front of one of his knees. It was about the size of a walnut, and appeared as though it were *double*, or consisted of one tumour upon another. Not the slightest inconvenience in any way resulted from its presence.

A DIFFERENT KIND OF “WINDGALL OF THE KNEE” is that which on occasions presents itself above as well as in front of the joint, taking the direction of the tendon of the *extensor metacarpi*, of the bursa of which it is an enlargement. In the case which I find I have registered of this description, it appeared to have had its origin in “pawing in the stall,” a habit to which Lord C——e’s mare—the subject of it—was much addicted; and it was pretty well ascertained that, in so doing, she was continually striking her knee against the manger. This is a different case from that of *distended theca*.

I have likewise seen windgalls upon the tendons of the flexors at the back of the arm, immediately above the knee.

WINDGALL IN FRONT OF THE FETLOCK.

There are two localities or forms in which windgall shews itself in this situation, according as its seat is the superficial or the deep

bursa mucosa. In all cases in which the fetlock joints are what we denominate "round," i. e., are evidently full and tumefied *in front*, as well as in other parts, the bursa underneath the extensor tendon is the seat of the windgall, which, in this instance, is complicated with synovial dropsy or general dilatation of the capsule of the fetlock joint; and this affection, though we are not in the habit of regarding it as "windgall," is, as we all know, anything but uncommon. What, however, more significantly, perhaps more appropriately, is called "windgall in front of the fetlock," consists in a normal distention with synovial fluid of the superficial or subcutaneous bursa thereabouts, producing puffy elastic tumours, palpably visible to the common observer, and bearing all the signs and characters of ordinary windgall. Windgalls of this latter description are but rarely met with: we may, in our time, have seen half-a-dozen instances; certainly not more.

We remember a grey carriage horse being brought to us in June 1848, exhibiting windgalls in front of the fetlocks of both fore legs, the tumours not being directly upon, but rather over the joints. They were oblong rather than globular in shape, and were about the magnitude of sections of hens' eggs. The tumour upon the off leg had been there for two years; that upon the near, but one. Vesicatories, and iodine and mercurial ointments, had been made use of: the latter having been found to answer best, though neither appeared to have done much good. We were asked our opinion about the case. Our answer was, "Two courses of treatment appeared open to trial: the one was *puncturation*; the other *firing*." The tumour being moveable underneath the skin, and having no traceable connexion with the joint, seemed a fair subject for a small trocar. On the other hand, should danger be apprehended from such an operation, certainly light firing could do no possible harm, and seemed to promise to have the effect of causing absorption. The horse shewed no lameness whatever.

Another instance of the disease is a troop horse now serving in the First Life Guards. H, No. 4, black mare, has a windgall in front of the off fore fetlock, directly above the joint, which is oblong in form, and measures from end to end four inches in length, and stretches in an oblique direction upwards across the fore part of the cannon to the inner side of the leg. We cannot say how long the tumour has existed, having but recently discovered it. It is certainly some disfigurement or "blemish" to the mare; but, beyond that, is not of the slightest consequence.

WINDGALL OF THE HEEL.

Of all, this seems to be the rarest form of windgall. Indeed, it is one which, so far as our reading has gone, remains up to this

time unrecorded. On this account, instead of giving any description of it in general terms, we prefer narrating the cases we have registered.

CASE I.—On the 13th January, 1844, a troop horse was brought to us on account of lameness in the off fore limb. On the previous day the horse had been sharply ridden in escorting her Majesty from Windsor to Egham, and there was no doubt whatever that such had occasioned his lameness. There was heat about the fetlock joint, and fulness in the situation of the bursæ at the back of it, and this heat extended down the pastern to the foot. The shoe was removed and left off for a couple of days, and the usual routine of bath and bandage and physic was adopted during the while. On the third day the shoe was replaced. Still the animal went lame. And now, on another examination of the leg, puffy tumours were discovered, one on either side, immediately beneath the sesamoid bones, reaching downwards and forwards to the extent of a couple inches in the direction of the lateral processes sent off from the suspensory ligament. There was also a third puffy tumour, intermediate in situation between the lateral swellings, being an enlargement of the bursa occupying the interval left between the divisions of the perforatus tendon for the issue of the perforans tendon. Between this and the bursæ at the sides there is evidently free communication; for pressure upon the middle bursa, below, immediately empties it, while it distends the bursæ above; and pressure upon them reverses this effect. The ordinary discutient lotion, with bandaging and pressure upon the tumours having been tried for several days without benefit, the acetum cantharidum was applied to them. This caused vesication, but not loss of cuticle or hair; and the result was restoration of the horse to soundness without any relapse thereafter.

CASE II.—The next is a case of enlargement of one of the same bursæ without lameness. It is interesting from shewing how gradually, sometimes, bursæ become enlarged.

April, 1845, a troop-horse was brought into the infirmary stable for having a puffy tumour of the magnitude of the section of a large walnut, in the hollow of the heel of the hind leg. It was clearly a case of enlargement of the bursa between the perforatus and perforans tendons. The same horse was shewn me six weeks before for having a sort of pimply fulness in the same place; but at that time, there being no attendant lameness, I refused to admit him. It would, therefore, appear that the tumour must have been growing gradually since my attention was first called to it. The horse evinces no lameness from it. Still, on account of its magnitude, it being regarded as an eyesore, something must be done to get rid of it. The heel is a tender part to blister. And yet experience

has taught us that nothing is so likely to summarily disperse such a tumour. Accordingly, the acetum cantharidum was applied in the usual manner with a small painter's brush; and the result was effusion of solid, in place of the fluid, matter into the tumour; which, ultimately, became reduced almost to nothing.

CASE III.—Another horse, an officer's charger, had been known to have for five years bursal tumours in the same situations, in both fore heels, not so large as the one above described; but no inconvenience had resulted from them. The owner of the horse would not admit that they were *windgalls*.

THE ACTUAL CAUTERY IN PLEURO-PNEUMONIA.

By ROBERT NICHOLSON, *M.R.C.V.S., Homersley,
near Pontefract.*

To the Editor of "The Veterinarian."

Sir,—HAVING been a subscriber to your excellent work from its commencement, I can bear testimony to the advantages now enjoyed by the veterinary student from the valuable cases recorded in its pages. I send one which, I think, is worthy of insertion, from the means employed and its successful termination.

In December last, I was called to a case of pleuro-pneumonia in a heifer, belonging to Mr. Reynolds, a farmer in the village wherein I reside. I found all the symptoms of an aggravated case of this disease. Gave laxative and antifebrile medicines, inserted setons in the dewlap, and applied vesicatories to the chest. No beneficial results following, I tried cataplas, sinapis, ol. terebinth. and antim. tartar; all in vain. By this time the appetite was quite lost, tongue pendulous, pupils dilated, respiration extremely difficult, pulse barely perceptible, and there seemed every prospect of a speedy dissolution. The owner, impatient at witnessing the sufferings of the poor animal, now requested to know if I could do any thing more, as, if not, he would have her destroyed.

As a last resource, I determined to try the effect of the actual cautery. I drew about twelve lines diagonally across the chest, and crossed them with about twelve more, thus cauterizing about a square foot of surface. The effect was almost magical. My next visit found the patient's respiration relieved, and, by the cautious application of antim. tart. to the cauterized surface, the other unfavourable symptoms disappeared. With the aid of tonics and other

suitable treatment, the beast began to ruminate in about five or six days after the application of the cautery, and rapidly recovered. In this case I attribute the failure of the counter-irritants used, in the first instance, to the depressed state of the vital powers in the animal, and I think the cautery will be found a valuable auxiliary in the treatment of such cases where energetic measures are required.

Wishing you a long and uninterrupted career of prosperity,

I remain, Sir,

Your's, respectfully.

13th February, 1849.

THE CHARTER AND THE BY-LAWS.

By W. Cox, M.R.C.V.S.

To the Editor of "The Veterinarian."

Sir,—IN the obtainment of the Charter for the veterinary profession, I find that both professors and members joined hand in hand; and that, as soon as obtained, those who were appointed members of the Council made laws which not only set the colleges of instruction against them, but laws for which, it must be apparent to all, the state of the veterinary profession, no more than the state of the country, is ripe or able to bear with:—I mean the apprentice clause. And I am confirmed in this opinion by the suspension of this act. I shall not find fault without pointing out a remedy. A law like the following ought to have been made after the first two years of the existence of the Royal College of Veterinary Surgeons. After the student had made it appear to the satisfaction of all parties that he had been in practice three years previous to entering the College, either for himself, or with a farrier or cow-doctor, or veterinary surgeon; then, after a study of two sessions at one of the Colleges, he might call for an examination; farmers' sons, &c. after a study of three sessions; drapers, tailors, cobblers, &c. after a study of four sessions. This might have been tried for a stated period; say for five or seven years. In fact, it is my opinion that something of the kind must still come into operation.

2dly. In the present state of our art, the making of laws should not be entrusted to the few of its members who compose the Council. At the yearly meeting for the election of four members of Council, the ratification of the laws made by the Council during

the year might take place simply by being put to the vote, without discussion.

3dly. The special examinations, which have lately been brought before us in your Journal, are altogether derogatory to the Royal College of Veterinary Surgeons. No such thing was allowed, that I am aware of, before the obtainment of the Charter. I have been informed that little or no examination takes place of the persons thus specially summoned. And I have likewise been further informed that you are passing persons at these specials contrary to the by-laws; to wit, persons who have never studied at the Colleges at all, or for a very limited period. In the September number of 1848, at page 514, we find the following stated by Mr. Cherry:—"The remarks I have made on quacks and pretenders do not apply to another class, who are not to be treated with disrespect, though they may not have been students at the veterinary schools; who by their propriety of conduct, natural good sense, and acquired skill, have gained positions in which they are respected, and deservedly so; and right glad should I be if I could hold out the hand of fellowship to them as members of our body corporate."

Now, Mr. Editor, if those who have never been students at the veterinary schools are not quacks and pretenders, please to point out to me who are! I infer from this statement, that there are two kinds of quacks,—one successful, and the other unsuccessful. It is to the first Mr. Cherry refers; to those who have got a little of this world's goods, by imposing upon the public for a period of ten, twenty, or thirty years. It is to this class Mr. Cherry says, "Come, and we will pass you."

I should like to see the names of all these specials inserted in *THE VETERINARIAN*. What can your reason be for withholding them when the names of the others are yearly inserted?

Your's, &c.

P.S.—This letter was written before your last Number came out.

Asbourne, January 14th, 1849.

REMARKS ON THE BY-LAWS.

To the Editor of "The Veterinarian."

Sir,—IN consequence of the revision about to take place in the by-laws of the Royal College of Veterinary Surgeons, and your invitation to the profession to suggest any improvement they may think proper, I have been induced to forward you the following

remarks relative to the proposed alteration. I am not a veterinary surgeon, but I expect at the end of next session to become a member of the profession. I entered the College in October 1847, with the hope that I should have held a *tête-à-tête* conversation with the Board of Examiners this year ; but illness at the commencement of the present session prevented me from attending at College.

I am one of the unfortunate class of non-apprentices ; and I think the by-law No. 2, section 2, bears particularly hard upon me, and all in my situation. My father studied under the late Professor Coleman and the present Professor Sewell, but for some reason did not present himself for examination. He left the College after remaining there two sessions, and set up in business on his own account, in which he has been for nearly forty years. Our practice is rather extensive, being situated in an agricultural and mining district in South Wales. There is no other practitioner within fourteen miles. Now, I have been superintending this practice, with my father, for the last six years in particular ; and lately I have been taking an active part in all the proceedings, such as castrating, spaying, firing, &c. : in short, I can perform all the minor operations in veterinary surgery ; and yet, according to the by-law previously mentioned, I must attend four sessions at the College before I can become a member of the Royal College of Veterinary Surgeons ; while a young man who has served his three years' apprenticeship with a town practitioner, and learned the way to make balls and compound medicines neatly, can, if he chooses, go up for his diploma at the end of two ; and perhaps, if his life depended on the question, he could not tell the difference between a spayed heifer and a cow, from their exterior appearance. I think the clauses relating to apprenticeship, as they stand at present, to be of more pecuniary benefit to the veterinary surgeon than advantage to his apprentice ; for I believe, if either of the Professors of the Royal Veterinary College were asked to give their opinions relative to the qualifications of apprentices and non-apprentices (by the latter I mean persons similarly situated to myself), it would not be so much in favour of the former as many may suppose.

From this I do not mean to infer that apprenticeship is unnecessary ; on the contrary, I think it to be of the greatest importance for a young man to be acquainted with the rudiments of the profession previous to his entering the College. That the by-law previously referred to will admit of some qualifying in regard to myself and others of the same class, I think is plain ; and I think the Council would not greatly err in placing us on an equal footing with those who have served their three years' apprenticeship. If every

student on his entering the College was to undergo an examination, the apprentice's knowledge would, I feel confident, be found very much superior to our own.

I am, Sir, your's obediently,
A NON-APPRENTICE.

February 15th, 1849.

REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—HON.

Part II. ILLUSTRATIVE FARRIERY: *A Series of Lithographs of the different Varieties of Horse's Feet, the states Unshod and Shod by different Methods; with Explanations of practical Utility.* By T. R. HODGSON, Veterinary Surgeon, Finchley, late of the Hon. East India Company's Service.

THE above work, in an unfinished state, has been forwarded to us by Mr. Hodgson, as "nearly ready for publication, providing a sufficient number of copies be subscribed for." It consists of about fifty well-executed plates of horses' feet, with explanations, prefaced by some general observations, informing us that the object is to shew, on scientific principles, to what height nails may be driven through the crust of the hoof without danger of their impinging upon sensible parts. Having, on "geometrical principles," ascertained the rules of construction of the horse's hoof, the thickness of the crust at the lower surface can be accurately shewn by admeasurement, and so may be pointed out whereabouts nails may with safety be driven and where not; and by an extension of the principle, by what scale of dimensions shoes may be cast or made, of all sizes, adapted with nail-holes in their proper places, and fit for immediate application: all other plans for casting shoes having failed from the faulty position of the nail-holes.

The views taken of the subject before us are altogether novel; and Mr. Hodgson has followed up his original ideas at the cost of great labour and trouble, as will be seen upon bare inspection of

the number of plates he has with his own hand elaborated for the work. Thus much prefaced, we shall endeavour to give a general outline of Mr. Hodgson's method of proceeding by rule and measure; refraining from venturing any opinion thereon until such time as we shall have had opportunities of ascertaining how far his gradients of density and obliquity may prove to be in consonance with the actual and pretty uniformly relative admeasurements of the component parts of the hoof.

Mr. Hodgson considers it to be in our power in all horses to discover the line round the crust through which, if the hoof were absolutely sawn, horizontally, the sensible parts would be no more than brushed; consequently, if nails were driven into the hoof, up to this part, they could not be at any point *perpendicularly* opposite to the sensible parts, and so could not possibly press upon them. His directions to find this line are as follow:—

Take a piece of tape, and pass it round the upper surface of the hoof, back to the heels. This circumferent measurement will, of course, vary in different horses. In the thorough-bred Arab it is stated at twelve inches. One-third of this length, whatever it may be, is considered to be the diameter of the hoof, which is divided into twelve parts, to form a scale. To ascertain the lowest parts of the crust, which are directly opposite to the sensible parts, he measures $7\frac{1}{2}$ parts of the said scale on the outside quarter, from the coronet downwards, and makes a mark; $7\frac{1}{2}$ parts upon the centre of the hoof, directly in front; and 7 parts upon the inside quarter. A line is then drawn through these three points, and continued thence to the bulbs of the heels.

Mr. Hodgson shews, by a plaster cast model of a hoof, and by very numerous drawings, that if the foot were sawn through horizontally in the direction of this line, the same would only just brush the nethermost portions of the sensible parts. Such are the directions given for normal feet in general, possessing good straight action: for other feet deviations will be required from such rules. And we can but regret our space will not allow us to follow Mr. Hodgson through his very ingenious plans for finding this line in malformations of feet, and such other varieties as proceed from defective action or defective conformation. In these cases the line,

he states, “varies:” the inner heel being sometimes level with the outer heel, or lower than it, depending on a variety of circumstances.

The next point to be ascertained is the thickness of the crust at all parts around the inferior circumferent line of the foot. There is likewise displayed great ingenuity of conception, providing the formula comes to answer in all varieties of feet. Mr. Hodgson measures $3\frac{1}{2}$ parts, according to the above scale (if we here understand him correctly) from the point of the frog, anteriorly, towards the crust—(*we rather imagine, however, he means to say that he divides the space from the point of the frog to the junction of the crust and sole, anteriorly, into $3\frac{1}{2}$ parts, and measures two parts backwards from the point of the frog*)—and then measures two parts directly backwards from the point of the frog towards its centre, from which latter point to the former one he describes a semicircle, the hoof projecting outside of this semicircle shewing the thickness of the crust at all parts, close up to which line nails may be driven with perfect safety. This thickness of crust at particular parts of the hoof varies very materially in different horses; and it depends on several conditions, such as turning in the toe of the foot from malformation of the extremity when the inner part of the crust is strongest and thickest, and turning out of the leg when the state of the hoof is reversed; the outside portion of the hoof being, as everybody knows, the thickest.

Mr. Hodgson having, as he considers, established these principles, calculates that shoes can be made for any sized feet with great precision and facility; the nail-holes being put in places marked out by a regular rule and scale adapted to each size and variety of foot.

Mr. Hodgson makes a very pertinent remark, and strongly enforces it on the attention of those superintending the shoeing of horses, which is, always to keep up the proper “declination” of the hoof; he being of opinion that inattention to this point is a very frequent cause of lameness. In illustration of his observation, Mr. H. has made use of a *foot-board* for a horse to stand upon, fitted up with a quadrant, in order to demonstrate the angle of declination of the hoof. He considers that a horse’s hoof, while not supporting weight, describes an angle of 35 (45?) degrees; but,

while supporting weight, that it declinates 2 degrees, making it 33; and that this, the natural angle of the hoof, ought to be most carefully preserved, by cutting away from toe or heel, or by the use of low or high-heeled shoes, according as is required to bring the hoof to this level; and that this is a point in shoeing that cannot be too strongly impressed upon the mind of the smith: parts being, from a normal position either strained or else put out of use; and all from lack of attention to this simple rule of adjustment.

We must not conclude this brief notice of the clever application of geometric law to the structure of the hoof, without explicitly stating that Mr. Hodgson does not consider that such measurements are required by either the practical shoeing-smith or the veterinary surgeon; but intends them simply and solely as practical guides, in matters of farriery, to the student, for whom he has specifically designed them.

OBSERVATIONS ON WINDGALL.

By A. CHERRY, M.R.C.V.S. London.

As the disease termed "windgall" has been the subject of illustration in the last Numbers of your Journal, I shall lay before your readers a few observations on a mode of treatment which I have adopted for many years; not that I presume to take credit to myself as the discoverer, or even as being very singular as to its employment.

Wherever windgall may be situate, or however produced, there is always an imperative condition, namely, an enlargement of a soft fluctuating character situate beneath the skin, and proved by ulterior examination to consist of a centre cavity filled with viscid synovia, and lined with synovial membrane, the parietes of the cyst consisting of condensed and often indurated cellular tissue: in fact, this puffy enlargement may be considered to be a hernia of the synovial membrane connected either with a joint or a synovial sheath of a tendon. As an illustration, a windgall on the front of the knee-joint may be occasionally met with; and if this is carefully examined, it will be found that on pressure the contents of the tumour disappear: remove the pressure, it again appears. Further examination will shew that the tumour evidently disappears through a well-defined opening with smooth round edges, and

less in diameter than the tumour externally. Ulterior examination of the parts proves that the opening which was to be detected by examination during life has taken place or been formed by a protrusion of the lining membrane of the cavity of the joint pressing against that part at which the capsular parietes, whether ligamentous or tendinous, are thin and weak, and the edges of the opening are formed by the rounded edges of the capsular ligaments and of the extensor tendon, precisely analogous to umbilical hernia: in truth, the windgall is a *true hernia*; and whether it be situate at or in connexion with one joint or another, I am disposed to believe that all windgalls will be found to be of a similar character.

Such being the morbid condition of the parts, it will be at once apparent how impossible it will be to effect a removal of the malady, unless you had the power of bringing together the edges of the opening through which the tumour has escaped, and causing these edges to unite. It is the inability to produce this state which has caused windgall to be set down as incurable, and, as it frequently does not produce lameness, this is allowed to pass.

Still we must bear in mind that though windgall does not render an animal lame so as to be unfit for general use, yet that this condition betokens that there is an original want of strength in the part in which it may be manifested; and, when they are formed, they are very prone to take on inflammatory action after a more than usual average day's work.

The object that is held in view in the treatment is to produce absorption and consequent diminution of the sac; but unless the treatment adopted shall have the effect of producing deep-seated action, and, as a consequence, a thickening as well as contraction of the parietes of the tumour, the remedy will be of no avail. Hence we see the inefficiency of any mere rubefacient; and, unless the actual cautery is had recourse to, the system adopted is only of the palliative kind—cold, bandaging, rest, and physic—and in a vast majority of cases, this is sufficient to restore the animal to usefulness. Yet there are a considerable number of good horses rendered in a greater or less degree lame, and, in consequence, diminished in their value, and which are not looked at as proper subjects for the employment of the actual cautery; and it is to these cases that my treatment more particularly belongs.

A horse being lame from this malady, no matter at what part situate, should at first be put under the usual treatment of cold, bandaging, or lotion, physic, and rest. This may be followed by the application of a mild sweating blister: in the general way this will remove the lameness; but a few days or weeks' work returns the animal as lame, or perhaps worse than ever. Again and again the same treatment may be pursued, and with the same

result. With young horses, the first or second time of treatment frequently proves successful, but with old horses it is different; and many a good and useful, but old horse, is condemned as unfit for service, and too old to undergo the severer operation of *firing*.

The treatment I have found to be the most successful has been this:—Commencing with the ordinary treatment, say for from seven to fourteen days, so that there shall be some portion of the contents absorbed, rest alone would do this, but it is greatly accelerated by the cold or antiphlogistic treatment. During the latter part of this premonitory treatment, a liniment similar to the following—

Linit. saponis simplex..... ℥iij
Oleum terebinthinæ ℥i

(to which may be added a portion of the tinctura lyttæ, or oleum origani—this may be made stronger or weaker, according to the effect desired to be produced, but it is not desirable to employ it too strong) should be well rubbed into the affected part twice a-day, until a scurf is raised upon the skin. In about half an hour after the application of the liniment, continue the cold applications, either by bandage or otherwise, as may be the most suitable to the part under treatment. This stimulating and cooling plan, adopted simultaneously, may be looked at as blowing hot and cold at the same time, and that the cold, by being longer continued, would put out the hot; yet this will prove not to be the case, but the very reverse. The stimulant which I have recommended will actually produce a better effect than if the cold treatment had not been employed, and one who had never seen such a plan in operation would hardly believe how *fine* the leg gets under it. The object I had in view in devising this method was to obtain a longer period during which I could employ the stimulant without destroying its action; and in both I have generally found that I have succeeded: I also found, what I at first did not altogether look for, that the rubefacient, by this plan, produced a much deeper-seated action, which was one object I was also seeking, though I did not expect to find it in this stage.

This course having been pursued as far as may be deemed desirable, and there is reason to believe that the horse will not *stand* sound, then I resort to the next stage in my treatment; and that is, to have the leg carefully washed from any grease or scurf: then with a brush apply to the enlargement, and a margin of about an inch beyond it, the following mixture—

Spt. vini rect. ℥j.
Hydrargyri oxymur..... ℥j.

(Put the mercury into a stoneware mortar; rub it into a fine powder;

add a drachm or two of the spirit; rub down and pour off the supernatant liquor. Repeat this with the sediment as long as any remains: by this process a drachm, or even more, may be dissolved in the spirit; but without the careful trituration not more than a scruple will be taken up by the same quantity of spirit.)

This is to be applied with a brush: a painter's sixpenny tool, as it is called, or a clean shaving brush half worn out, is the best. The mixture should be applied just the same as paint, taking care that only so much is applied as the hair or skin will hold on the surface, without running off. It should be well brushed in for two or three minutes, as by so doing the mixture will be prevented from running where it is not wished; as also by the friction a stronger effect is produced. For windgall on the fetlock, both sides should always be done; but it is not necessary to connect them: half-an-ounce will be sufficient for one leg. For bog spavin or thorough-pin, from half to one ounce, according to the extent to which it may be applied. The hair should not be cut off.

[To be continued.]

Home Department.

HUNTERIAN ORATION.

DELIVERED IN THE THEATRE OF THE ROYAL COLLEGE OF
SURGEONS, LONDON, ON FEBRUARY 14, 1849.

By CÆSAR HAWKINS, *Esq., F.R.S., &c.*

MR. Cæsar Hawkins delivered the annual oration at the College of Surgeons on Wednesday last, the 14th instant. The theatre was, as usual, completely filled, an extraordinary degree of interest being felt in consequence of its having been made known that his Royal Highness Prince Albert had graciously signified his intention to be present on the occasion. Precisely at three o'clock his Royal Highness entered the theatre, and was received with most loyal demonstrations of applause. On its subsiding, his Royal Highness having taken his seat, Mr. Hawkins at once commenced his oration. He said—As a lasting mark of respect to the memory of Hunter, this day, the anniversary of his birth, had been set apart for the meeting of his followers. After the memory of one born in 1728, and removed from the scene of his labours fifty-six years, had been commemorated annually to the present

period, what could be said in elucidation of his character or his investigations which was not familiar to every one in that assembly? None refused to recognise in his museum an evidence of unwearied research—knowledge and labour almost incredible, as the work of one man in the short space of thirty-five years. Few had hesitated to believe, on the concurrent testimony of those of his contemporaries most qualified to judge, that in the sciences of anatomy, physiology, and pathology, whether comparative or human, descriptive or general, he first pointed out the manner in which the phenomena in organized beings could be unravelled. No one who had sufficiently studied his works would refuse to Hunter a place among those bright luminaries of science whose light, like that of the most distant of the heavenly bodies, may reach us for centuries after they have become extinct. The publication, in 1835, of a new edition of his works, in which his opinions were illustrated by men most qualified for the undertaking; the catalogue of the physiological museum, published within the last ten years, together with the able remarks of some of those whom he that day followed, had demonstrated how vast and varied a fund of knowledge was possessed by him on many important points which were unsuspected by all. By these, too, it was shewn, that few men ever lived who had the wonderful power and facility of exhibiting so much truth in so small a field; and now, by the joint labours of their President and Council, the new Catalogue of the Pathological Museum was almost completed, illustrated with extracts from his unpublished as well as from his before well-known pathological researches, calculated to shew, in the clearest manner, the preparations he was accustomed to employ in conveying instruction to his pupils by their means. Hitherto, the pathological had not harmonized with the other parts of the collection, although the merits of its great founder had not been unappreciated by a few select students. At present, through the numerous purchases made by the College at an expense of upwards of £4000, and by the donations, extensive and valuable, of its members, the collection had become double in number and value since the first catalogue was published in 1830, and might claim comparison with any other collection in that branch of science,—if, indeed, it might not boast of some superiority—whereby it might be seen how close was Hunter's attention to disease. Then, also, they were in a better position to answer the question—even, perhaps, granting his great eminence as an anatomist and physiologist—what are the facts as to the treatment of diseases, why surgeons always express for him such great admiration? Even in that assembly there might be some who had never studied the more finished of his works.

It would require much knowledge, much application of mind on the part of his readers, to understand fully the conceptions of a teacher engaged in following out his subject in every possible point of view, and would naturally excite some alarm for the labour in prospect. Hunter himself deemed it necessary to apologise for the abstruse character of his reasoning. Neither would a fair inference be drawn as to his influence in surgery, if it were shewn that some of his contemporaries were more often quoted than he, and were even safer guides in some points; as when he postponed the amputation of a limb to a remote period after an accident. It would be easy, on the other hand, to shew many points which were known to him, but which were overlooked, until re-discovered by other observers after the lapse of time, and secured by them as the result of their discrimination. But it is in examples of individual practice only (for they were all students in the science or art of surgery) that they regard him as their great master. The estimation of posterity is the same as was Brandreth's, who said, "I feel that I am but a pigmy in knowledge when compared with this man." Notwithstanding their great practical merits, it was in vain to look to the ranks of those at the head of surgery for that constant reference to anatomy, for that depth of thought and varied illustration, which fixed the attention, charmed the ear, and exercised the mind of this writer, in dwelling upon the doubts and suspicions thickly scattered over his writings, many of which are proved to be most sagacious anticipations and most important facts.

Hunter's constant aim was to explain to his pupils the principles of the art of surgery, and thus by reasoning, comparison, and analogy, to lead them to be prepared to cope with unusual and unforeseen difficulties. It was by enforcing these principles in a spirit of experimental research that he contributed to effect that change in surgery which characterized his time; and to his precepts were they largely indebted for the impulse which had been given to it in the present century. He was prohibited by the Council of that Society from mentioning the names of many among whom the same spirit had extended, because they still moved within their observation. It was his duty to recall to the recollection of his audience the losses which had been sustained by the Council, since the last anniversary, in the death of three of its members. Two of these, Mr. Briggs and Mr. Callaway, afforded a most remarkable contrast to each other, both physically and mentally. The latter was an active, persevering man, laboriously employing his skill for the benefit of a large circle, by whom he was deservedly esteemed and most sincerely mourned. The former was the shy, retiring, and modest student, whose works were known in comparatively a narrow sphere. Both of them held

several public appointments, but by neither of them had the literature of the profession been much enlarged. Mr. Callaway was the author of a work on Surgery, and Mr. Briggs one on Aneurism.

Appreciating, as he did, the zeal evinced by the Council for the cultivation of literature among its members some short time ago, he would venture to add that the library of the Institution had been since considerably increased at a large expense, in which increase Mr. Briggs felt a warm interest, and was a liberal contributor. The library at the present time contained as many as 23,000 volumes, and was the most complete, in every department of the sciences connected with medicine, of any library in the kingdom. The possession of 2500 volumes upon subjects of natural history evinced the desire of the Council to promote also the study of more general literature; while the fact of 5808 visitors having availed themselves of the benefits which such a library afforded, was a sufficient proof that the Council was right in its conjectures as to the literary character of its members.

The third loss which the Council had to deplore was that of Mr. S. Cooper, whose surgical erudition had earned for him a widespread reputation. Educated at Dr. Birnie's, he began his professional studies at St. Bartholomew's Hospital, for which Institution he had a warm attachment. His public services in connexion with the army were first called for during the short interval of peace, and then in that great victory which secured the longest peace ever known. He occupied many high stations. For seventeen years he was surgeon to the University College Hospital, where his kindness procured for him the regard and warm attachment of the students. He was also for many years Examiner of this College, and in 1845 he filled that highest of offices in it which you, Mr. President, now occupy. While he was quite a young man, he wrote a treatise on the diseases of the joints, which gained him the "Jacksonian Prize" of this College. His great work was a Dictionary of Practical Surgery. That book, though perhaps imperfect, was a work of inconceivable labour, and presented a great mass of surgical information from many valuable sources, and the best authors in Germany, France, and Austria. It had been translated into three languages, and had been also published by their Transatlantic brethren, who, however, affected to find fault with it. Seven large editions had appeared in this country up to the year 1838, and for the thirty years preceding it had formed the text-book of every student. That work, however, had been in a great measure superseded by many other manuals, especially adapted for young students. In the work of Mr. Cooper, the very richness of its illustrations perplexes the young beginner, for

want of some guiding point to lead and direct him. The consultation of many authors is not the modern tendency.

The changes which the literature of the country had undergone had naturally an effect upon their profession; yet cyclopædias and reviews had too much usurped the place of old folios, so that it might be said still, "Men get at all their knowledge by reviews." On the other hand, he trusted and believed that the impulse which the advancing tide of knowledge had received was felt by them; that many had become more studious and more scientific; and that pathology and surgery had, in the course of the last few years, undergone changes as wonderful and important as those effected by Hunter; not, indeed, by the labours of a single individual, but by a number of zealous votaries in a similar spirit of experimental research, and over a still more extended field. The great results which he anticipated in pathology and practice, both medical and surgical, were again to be derived, in part, from further researches into anatomical and physiological science, by more minute and accurate examination of animal and vegetable bodies; and by having especial regard to the general anatomy of tissues, which was at present carried on, by microscopic observation and inorganic chemistry, to a greater degree of refinement. It was in minute subjects that modern pathology was occupied, to explain the different and numerous functions of life. Digestion, respiration, secretion, excretion, &c., were all presented in new forms, and gave fresh charms to science. The discovery of albuminous substance in all vegetable life had removed much of the mystery of the animal, shewing that the conversion of vegetable substances into nitrogen is not required to be effected in the stomach. The process of digestion becomes, therefore, much more simple in theory; it is mere dilution and absorption, and provision is made for the removal of that subtle alkaloid poison from the body so as to preserve life.

The Lecturer then referred to the knowledge which was possessed of the power of absorption of gases by the blood, the chemical changes which it underwent, and the removal of nitrogen from the body. He alluded also to the triumphs of modern chemistry, in resolving one organized substance into another, and which Hunter had regarded as impossible. It was a physiological question, how that could be effected by the living body, subject as it was to the action of gaseous particles upon its solid as well as upon its fluid material. Every action of the body effected some chemical change, and caused the disengagement of electricity:—these were facts which were familiar to every one. Practice, on the other hand, to be more effectual, must sometimes look to the prevention, and at others to the treatment, of disease by the use of

remedies directed chemically to the multiplied chemical changes known to be in progress. The orator proceeded to combat some of the absurd theories of the present day, observing that the tendency of modern philosophy was to attempt too much to explain many of the phenomena of life upon some simple physical principles. Some of the admirers of Hunter, by unduly elevating the vital property so dwelt upon by him, have led others to turn away from the study of his writings; but it should be remembered that Hunter had to combat the extreme views of the physiologists of his day, and the examination of his whole writings would shew that he kept that part of his doctrine in due subordination to the rest. Mr. Hunter's theory of the blood had been doubted, yet the deductions of modern science were daily bringing out the solidity and justice of his views into fuller and brighter relief. Mr. Hunter, indeed, was a man, the originality and fertility of whose views entitled him to say—

“*Libera per vacuum posui vestigia princeps :
Non aliena meo pressi pede.*”

It was, however, encouraging to observe, that modern physiologists and pathologists were not disposed to look to any single cause for the condition of so complicated a substance as the human body; that they do not wish nor attempt to explain every thing upon mere chemical, mechanical, or any other single theory: they know that all these forces might be concerned in one affection; and that, though advancing science had discovered much, there yet remained much in the human frame, which regulated that body, to which they could only apply the term “vital affinity,” or “vital action;” and which took place in that part of the system where the solids and fluids were most intimately mixed, and were continually changing places. What numerous discoveries must necessarily, therefore, yet await them! If their present knowledge of these things was so limited, how little could they expect to understand of the morbid states! Mr. Hunter, speaking of the “vital action of the fluids,” was a pathologist far before his age: he believed that the fluids were as capable of disease as were the solids. It was a curious study to trace his great doctrine, at one time exalted most extravagantly, then sinking into disbelief, and then again brought forward with all the force of enthusiasm; satisfactorily proved in many points, but in danger, perhaps, like many others in modern physiology, of being carried to a greater extent than Hunter contemplated, or than facts would justify. Certainly, the marvellous discoveries during the last quarter of a century might excuse some degree of over-confidence in human opinions, and some hasty speculations. Those who were inclined to the indiscriminate adoption of every theory, and found an unknown and foreign name more potent than a well-established

authority, would do well to remember the forty years of labour spent by Hunter. On the other hand, it is admitted that Harvey and Hunter were thought, by their contemporaries, to be enthusiasts. It cannot be said now, with truth, that there is a want of readiness to investigate new theories: the portals of science were thrown open. There was nothing contrary to physiological principles, that vegetable substances should be quickly absorbed into the blood, and this knowledge was of incalculable importance to mankind; it was proved by daily experiments upon living bodies, and demonstrated how close were the confines of life and death.

The orator alluded to the suggestion of Sir Humphrey Davy, that nitric acid gas would destroy the sense of pain during surgical operations; also to the application of pressure as a safe and easy cure for aneurism of the extremities. It had been anticipated that they were arriving at a culminating point in their knowledge and comprehension of nature. He was well aware of the gradual and slow progress made by science when it depended upon the accumulation of facts, and how difficult it was to establish even a single point. Much still remained, and must ever remain, unknown regarding the animal frame, so that their knowledge could not be elevated to the rank of the exact sciences. The wisdom of experience should be acknowledged especially in their profession, and there would ever be a variety of theories and opinions. Lime juice had for years been considered as essential in the navy to arrest that disorder which, till lately, had almost disappeared,—the scurvy. Potash had lately been recommended in its place. After alluding to the ravages of the present epidemic, the orator went on to observe—There was encouragement in the signs of the present day. Physiology and pathology were more generally studied by the profession, with a sober, candid earnest search for truth, than at any former period, and this was acting, moreover, under much more favourable circumstances. It was said with reference to geographical discoveries, that mankind made more progress in the fifteenth century than in all the other ages previously: all former knowledge faded away and disappeared in the comparison; new objects now presented themselves, and the human mind engaged in the pursuit with fresh ardour, and exerted its powers in new directions. Similar to that was the rapidity with which general science advanced with the present time. Every day some new discovery was made, and bonds of connexion between their own and collateral sciences were perpetually becoming evident. It could not be that the general flood of light which was shed over all should not illuminate medical science also. He could not agree with those who, remembering the errors of supposed discoveries in the early part of the present century by means of the compound microscope, believed that the same applied to the

achromatic microscope of the present day. The microscope appeared to be effecting changes in their knowledge of nature no less wonderful than that effected by the telescope. He knew not which extreme was most calculated to excite reverence for their common Creator. The Council had not been unmindful of the benefits which anatomy, physiology, and surgery, might obtain by the microscope; they had purchased a large number of specimens at no trifling cost, the catalogue of which formed a splendid collection of microscopic objects. The first volume, now on the eve of completion, would serve as a complete treatise upon anatomical physiology.

He then referred to the use of the stethoscope, and to electricity, which latter had been so successfully employed to bring life and healthy action into the diseased limb, and to destroy the vitality of a morbid growth. How fruitful a field of inquiry had been opened in the study of its influence upon the whole animal and vegetable economy, whether it were traced in its diurnal motion, or in the thunder-cloud and storm, unnoticed, except by the student, but affecting large portions of the globe! Might he not venture to ask, if they could not derive great lessons from the way in which these sciences were often cultivated? In reading the works of adventurous voyagers, such as Sir James Ross, they could not but be struck by the manner in which their knowledge was brought to bear upon science—the structure of the earth—the temperature of the waters—the different vegetable and animal productions of land and water—the tidal movements—the appearances of the heavenly bodies—and numerous other objects of interest. These observations were made amidst the dangers of the Antarctic regions; while in other latitudes similar results were considered and deliberately agreed upon by persons eminent in their several pursuits, by whom subsequently the whole were compared and analyzed, and their value duly weighed. Would not some such consultations advance medical science more steadily in the right direction, step by step? Would these not give a higher value to original discoveries; and would not, especially, such a system work well in their public medical institutions? In each different hospital of the metropolis there was much local traditional knowledge confined to its own pupils, in which there were peculiar modes of treatment; nay, their doctrines were so opposite, that a form of tumour, regarded at some schools as constitutional and cancerous, is regarded in others as fibrous and purely local. Hospitals were the only safe standards of statistical information. It could not be but that the united results preserved upon one concerted plan, for a few years, would afford a mass of valuable information now, in a great measure, lost or wasted;

which would enable those who possessed the necessary test to solve a great number of most important questions in medical and surgical practice, in which, therefore, comparative certainty would take the place of so changing an aspect of personal experience. It was very gratifying to witness the increased co-operation and appreciation of scientific merit which was being manifested in other countries; and they must acknowledge their obligations to other nations, especially to Germany, for much of that spirit. It was pleasant to see the medals of their Society awarded to foreigners for their efficient services to medical science, and to witness the elevation of their own countrymen to posts of rank and honour in other lands; especially in the call of Sir David Brewster to the chair of the French Institute, lately occupied by one of the greatest of modern chemists, Berzelius of Stockholm.

In conclusion, it was always gratifying to witness an increasing sense of the benefits and pleasures which might be derived from scientific knowledge by persons in every rank of life,—a sense which had been constantly evinced by that illustrious person whose love for science had that day induced him to honour them with his presence. No doubt their President would express to him the sense which was entertained of his Royal Highness's condescension in visiting that assembly; he would, therefore, only presume to add, that as it was a pleasure to every Englishman to witness the Prince Chancellor of one of their ancient Universities assisting in giving that honour to science which a sense of its importance had prompted him to give, so was it always the prayer of every Englishman that the force of parental example might have its full influence upon a long line of princes, whose personal character would give a stability to the throne itself, even should there be again such an overthrow of dynasties as it had been their lot, under Divine Providence, to sympathise in, but not to share.

The oration was received with frequent indications of gratification; and, at its conclusion, the Prince Consort was rapturously cheered, which he most graciously acknowledged.

Medical Times.

THE PRESENT STATE OF THE MEDICAL PROFESSION— NECESSITY OF REFORM.

THE present position of the medical profession must strike the reflective mind with the conviction of its political imbecility—an imbecility, bearing, as it does, an inverse ratio with its social importance. Under a second visitation of a frightful disease, which has as yet happily committed but partial ravages, the Government

and the public alike turn to the profession as their refuge, their tower of strength, their shield.

Yet, with so great responsibilities, medical men not only fail to make themselves represented adequately in the senate by members chosen from their own profession, but the majority of them hold no definite ground in the great field of the British constitution. If this anomaly has recently puzzled our statesmen, so likewise has it bewildered as well our constitutional lawyers as the public at large. Intelligent foreigners, in the *coteries* of the scientific, are struck with the phrase, "medical man." "A physician?" say they. "No; a medical man!" "A surgeon?" "No, not exactly,—but a medical man." "What!" say all intelligent foreigners, and, we may add, all reflecting persons of our own country also,—“A medical man, but not a physician! As well might you say, a clerical man, but not a clergyman—a military man, and not a soldier—a counselling man, but not a counsellor—a legal man, but not a lawyer.” “Oh,” but some one shall say, “Mr. So-and-So is a surgeon.” What! a surgeon, without having the requisite medical knowledge to take charge of disease! Have not all our eminent surgeons, so called, deliberately declared, that “he who has not the knowledge requisite for making a good physician must make a bad surgeon?” And has it not equally been asserted by our most eminent physicians, that “no man deserves that appellation who is ignorant of the principles and practice of surgery?” None of us affect to be ignorant that the great majority of cases attended by the consulting surgeons of this metropolis are decidedly medical, and a still greater majority of those ordinarily coming under the charge of the so-called rural surgeon. Whence has arisen all this confusion, and how are we to account for our low position on the scale of political importance? He who reads the history of his profession, from the Charters of Henry VIII to the Apothecaries’ Act of 1815, will be at no loss for an explanation. “He who does not strenuously oppose the first infractions of his right,” says Coke, “has already lost considerable advantage in any conflict which may be necessary for its defence.” The Charter of Henry VIII commences with this recitation:—“*Whereas we think it part of our Royal duty to consult for the happiness of our subjects, and that such happiness will be eminently promoted by curbing the attempts of impostors, who practise rather for the sake of plunder than from any conscientious conviction of their own utility, by which an ignorant and credulous public suffer considerable damage; therefore, following the example of other nations [&c. &c.], we appoint John Chambers, Thomas Linacre, and others [to do what?], to examine and to license all and singular persons presuming to take charge of diseases; all which said persons, so licensed, shall aid and promote,*

as well by their example as by their authority, the president, the censors, and elects ;” thus establishing, that all persons so licensed became physicians of the realm, and that the Charter contemplated no exclusion, no degradation of any body of men. And, thus fitted to take charge of disease, we defy any man to shew that any practitioners could be excluded at that time from the College, except on the ground of immoral character ; and we will go further and say that, up to the period of 1815, the terms apothecary, and surgeon-apothecary, as applicable to a medical practitioner, however growing into use in common *parlance*, were terms unknown to the British constitution. It will be worth while to trace how the great masses of the medical community have, in the lapse of time, been juggled out of all benefit of the Royal Charter ; in other words, how the physician of Henry VIII, under the rapid march of intellect, became the surgeon-apothecary of our own time ;—a task which the lapse of events would enable us to perform without personal invective, and even without personal allusion, except to names which are now become legitimately historical.

Medical Times.

MEDICAL EDUCATION.

As the session approaches it is well to turn attention to the state of medical and surgical education, and to suggest improvement, for truly there is room for it. We do not, however, propose at present to treat our readers to an essay on the subject, but merely to make some passing observations upon points raised and suggestions offered by our contemporaries. The following *exempli gratia* we copy with this view :—

“As the winter session will shortly commence, I would call your attention to what I consider a crying evil in some of the metropolitan schools, viz. that the professors themselves, in their several classes, examine the candidates for prizes and other honorary distinctions.

“I do not wish to cast any slur on their impartiality, for they are, doubtless, ‘all honourable men ;’ yet it would surely be better, if some gentlemen unconnected with the school of the examined could be chosen as examiners.”

Respecting this same question of premiums, we entertain a very decided opinion, so strong a one, indeed, that we do not well care to put it in print for fear of consequences. The advocates for the “premium system” are so numerous, and so contented with the results, that any suggestion of doubts as to its real value is not without danger. Still we must venture to observe, that, while premiums may be very good where all are examined, they may

not be so where but a few, and generally it is very few, are candidates for the prize. It was reasonable enough to expect that premiums would foster emulation and provoke competition, and that, by so operating, education would be improved and the student allured to habits of application; but we challenge the advocates of the plan to prove that it has had any such effect. On the contrary, we almost venture to say that it has had the reverse. That it has stimulated the competitors for prizes to a salutary exercise of their mental faculties we admit, but at the same time we verily believe that it has generated a certain amount of languor and apathy in those who do not enter into the competition. They feel that in comparison with these prizemen they are considered to hold somewhat of an inferior position, and thereby do they lose so much of that most valuable feeling, self-respect. Nothing contributes more to a man's degradation than a conviction that he is doomed to a station of inferiority or mediocrity. If this be the effect of this system, even in a slight degree, we incline to think that its benefits do not compensate for so serious an evil, seeing that in a class of one hundred, about ten, if so many, may be candidates for prizes, while ninety are satisfied to remain in obscurity. It has sometimes appeared to us that lecturers, in dispensing these premiums, pay but a bad compliment to those of their class who fail to obtain them; and, to say the truth, we have sometimes been compelled to conceal our inclination to laugh at the mistake of a candidate for popularity in thus making one contented and nine discontented. Then there is another way in which the thing does mischief. It makes the students at large jealous of the prizeman, and sets them upon questioning his pretensions, by which the importance of the subject for the prize comes to be questioned; hence the *cui bono* argument, which from this, as from other causes, has latterly done so much mischief, and promises to do more. If one man carries off the palm as the best of stethoscopic adepts, nine men will hold the art cheaply, because they have been compelled to admit their inferiority as practisers of it; and the same of other subjects. But be the effect in this way good or bad, is it not injurious by raising suspicions as to the motives of those who offer these prizes? Is it not now universally admitted that the thing is done to "draw pupils" in many cases, and that teachers who entertain our opinions on the subject have been compelled to resort to the practice in self-defence? Indeed, we begin to think that this is the state of the case from beginning to end; from the anniversary flare-up at University College, with Lord Brougham as the turncock of the fountain of honour, to the meanest "cheap-and-nasty," with its appropriate staff of touters and confederates.

Dublin Medical Press.

VICIOUS HORSES.

By HARRY HIEOVER.

KICKING IN HARNESS.

SOME people may wonder, if a horse is put into harness, that he should sometimes kick. I, on the contrary, give him credit for great docility, if, on his first essay, he does not invariably do so.

I would ask such persons if, during their walks, they never find a wheelbarrow being driven close on their heels, or a boy's hoop driven against their persons: if so, I think I will answer for it that on the former occurrence the first thing they did was to step out of its way; and on the latter occasion, let me ask any hasty man, or indeed a cool one, if he never gave the hoop a kick. I know I have done so, and thereby accelerated its quondam pace most amazingly. Now, why does a person not kick at the wheelbarrow as well as the hoop? For a very good reason. A wheelbarrow is rather an awkward customer to play at kick-shins with. We know it, and prudently get away from any encounter with it. But with the hoop it is a different affair; we there can make the greater impression, so we shew our magnanimous courage where we know we cannot be hurt by doing so. I am sorry that truth compels me to acknowledge that boasted man often shews the same all-to-be-admired magnanimity and daring courage on many occasions in life, as well as in encounters with Billy's hoop.

Now, getting out of the way of the barrow I hold to be tantamount to a horse running away with (or, as he hopes, *from*) a carriage. "Yes," a person may say, "but I do not run away from the barrow." I know you do not, for a very simple reason, the barrow only comes at a pace that a walk or a step aside takes you out of its way. But we will suppose it driven by a very athletic fellow, along the narrow passage leading from Curzon Street to Hay Hill, at the rate of eight miles an hour; I will answer for it, you would accelerate your pace at go-like-bricks till you got to the steps. Arrived in safety there, if you are made of a good bit of stuff, you may (the barrow having stopped, for there was no resisting that), go back and give, or attempt to give, the fellow a thrashing for his impudence. If you are not of this game sort, you throw up your eyes, get your breath, thank Providence for his mercy, and walk off. But game or not game, the barrow will beat you when in full career, take my word for it; if you will not, try the experiment.

But we are not here on the subject of running away, though I have perhaps been doing so from my text, so we will return to kicking.

From long practice, and longer observation, in putting horses in harness, I feel perfectly confident in the opinion that with English-bred horses (I will not say the same of Irish-bred ones), if we were to put fifty into harness, not perhaps one out of that number would attempt to kick, if we could keep pole, shafts, or traces from touching his hind quarters. It is, in most cases, this collision that he kicks at—not from vice, but from feeling something touching him that he cannot see; consequently cannot judge whether it is any thing likely to hurt him or not. So he endeavours to kick it away, as we should strike at an insect that lit upon our cheek without our perceiving it. Few things induce horses to do mischief so much as surprise of any sort; in instance of which, I had put my horse up at an inn while I dined: on going to the stable with the ostler his light was extinguished, as I stood at the end of the stall pointing out my saddle. While he was gone to re-light it, I imprudently put my hand on my horse's quarter; he immediately kicked out with both heels. Fortunately for me I was quite close to him. Had I been four feet away my death would have been as certain as if I had stood at the mouth of a cannon. As it was, I was carried senseless into the inn, and there lay a whole week. Now, that was as fine a tempered animal as ever lived. He was alarmed, or at least surprised; but vice was not in his composition.

I am quite aware there are some horses that will kick in harness, put them in as carefully as you may, and are, in fact, incorrigible in that respect. If such a horse was savage and vicious on all occasions, I should set down his kicking in harness to inherent or contracted vice; but suppose, as would very probably be the case, he was good-tempered on all other occasions, I should infer that, from some unknown cause, he had (and likely enough with reason) contracted a dislike to or fear of harness. Such a horse would be more difficult to cure of kicking than a vicious one. The latter kicks from vice and ill temper—he may perhaps be cowed or coaxed out of the habit; but the other does it (if I may use the expression) upon principle; and we might never be able to eradicate from his memory whatever it was that caused his fear or dislike of harness, and unless we could, kick he would, more or less, to the end of the chapter.

On the other hand, it is not a very uncommon circumstance to find horses, in a general way vicious both to ride and to persons, go perfectly quiet in harness. My inference would be that such a horse had had a something done to him that caused dislike both to man and the saddle; but the same thing, or any thing that had annoyed or alarmed him, had not been done to him in harness, consequently there he would go quiet.

If a horse only kicks when put to a carriage, I think we may fairly conclude it is from some cause that he kicks at the carriage. By patience, kindness, and long practice, we may get him out of his fear (which in nine times in ten it is), or his dislike to a vehicle behind him; but if we find him kick at the harness when put on him, it shews one of two things,—either he is a ticklish horse behind, consequently dangerous for harness; or is an old offender, and knows both what he is about, and what we are going about with him. Whether or not he is the latter is very easily ascertained. Put a collar on to his head till it comes up to his eyes; if he is unused to this, he will recoil from it; if not, he will rather shove his head into it. If, after doing this, I saw him begin to wriggle, and his tail go, on the harness being put on his back, I should shake my head at him, and suspect I had got hold of a queerish acquaintance: if he really began to kick, the thing in my mind would be settled.

A colt or horse unused to carry harness will often be much alarmed on its first being put on him, and seriously frightened he will be if this is roughly or suddenly done; but the chances are he will only flounce about in the stall, or get as far up as he can into one corner of it: he will probably put his tail close down on the crupper being put under it, but if this is gently done, and he is caressed, he will rarely actually kick. Should he fling out first one heel then the other, as a race-horse does, he does not mean kicking; he is uneasy and inconvenienced, and shews us that he is so; half-an-hour, and a few oats to take up his attention, will reconcile him to this. On being led out, he may cringe from side to side as any part of the harness touches either side—he may even kick out on the side touched: this means no mischief; it is being touched by a something, he knows not what, and he means to kick it aside, nothing more. A walk for half-an-hour, letting the straps very gently touch him, will reconcile him to this also; and if carefully put into the carriage, and driven off very gently, I will answer for his not hurting any one or any thing, unless extraordinary timidity may make him do it, and if he does he shews fear only, but no vice on earth.

Now the old offender will not perhaps actually kick at the harness in the stable, though he may shew his total disapproval of carrying it; he waits till he finds we are actually in earnest as to putting him to a carriage. But the moment we bring him out of the stable he thinks it quite time to begin to work, though not the work we want of him, and will shew us what he can and means to do, by sending his heels whizzing in the air, without a moment's intermission; no doubt of his kicking at the carriage. I have seen many horses, who would shew little or no dislike to the har-

ness, kick like trumps when put to; but I do not remember ever having seen one kick—that is, what I call kick—at harness, that ever shewed any courtesy to a carriage. Woe to the splinter-bar if it is not a strong one, and woe to such a horse's heels if the bar is not well stuffed. This, it will be said, is vice in its extremest form. I am not quite prepared to allow this in the full meaning of the term, though I grant it does look a wee bit like it, or very like it; but still it may not be vice in the animal as to temper or general disposition. He has the vice of kicking in harness—perhaps has had good reason to do so; it shews he hates harness: but if he is willing to work in other ways with cheerfulness and good temper, I should lay his kicking in harness to the fault of some biped, and not to the quadruped. Depend on it, in such a case, the horse has been hurt, annoyed, ill-used, or frightened in harness, or very likely all;—tolerably cogent reasons, I think, to make man or horse dislike harness or any thing else.

RUNNING AWAY.

This, when a horse does it in harness, I conceive to be one of the most natural impulses that actuate him, inasmuch as it is natural for any animal to endeavour to run from that which either alarms it, or that it has a dislike to: it is one of those occurrences that more than any other should be guarded against in harness; for so sure as a horse has had one decided run-away with a vehicle behind him, so sure will he at least attempt the same thing again on the first provocation or incitement to do so. No doubt but in proper hands, that know how to counteract such a propensity, he may in most cases be prevented from accomplishing his purpose, for such a person will first guard against (as far as he can) the animal being excited to the attempt, and, should he do so, knows the proper means of preventing its being carried into effect; but, with an ordinary hand as a driver, a run-away at some time or other is certain.

That the original, that is, the first, run does not arise from any vice I think nearly certain; for not having tried the experiment, of course the animal knows nothing of what the result of it will be; but if he has done so, and found that he got rid of the carriage, like the post-boys' horse following Johnny Gilpin, "right glad to miss the cumbering of the wheels," he then probably runs away the next time to bring about the same result: this, then, becomes a decidedly vicious trick in harness, though not absolute vice in the horse as to general disposition. I might be asked by some one knowing less of these things than myself, what I would recommend as the best means of curing or counteracting the propensity.

This I certainly, from having had a good many such horses through my hands, could and would with much pleasure state; but I know I can give much safer and better advice, which would be—"Use him as a saddle-horse, if he is fit for that purpose; if not, sell him." *No one* can say with *proper* confidence that he can cure a determined run-away horse of the propensity: if a horse runs away from high temper, constant work will probably appear to have effected a cure; so perhaps it will while the work continues; he is subdued, but do not fancy he is cured. Let him recover his energy, and away he goes again; nor will work even always produce the effect, for, if he is really a bad-disposed horse, he will sulk at it, and then run away from ill-humour instead of fright or energy. The cause of the starting off will be a different one, but the effect will be equally dangerous, and in the latter case so certain as he runs away will he kick also, which a high-mettled or even frightened horse may possibly not attempt, though the probability is that he does.

I certainly never was absolutely run away with by any horse in harness, excepting once by a pair of young ones. I in no shape mean to infer this has arisen from any very superior coachmanship: many far better coachmen have had more than one or two such starts, but probably they have not had as much to do with such horses as I have, and consequently do not see by the commencing manœuvres of the horse the favour he intends us. There is no case where the common saying that "prevention is better than cure" holds good more than it does, I may say, in all things that regards horses. The want of prevention often brings on vice, where vice did not before exist.

There certainly are some old offenders who are always on the watch for a start, and are knowing enough to make it when they find that from a decline or a particularly hard bit of road the carriage will almost run of itself: for this reason a suspicious horse should always be slackened in his pace before he begins a descent, for, if he once get ahead down the hill, not only cannot the driver stop him, but very probably he will not be able to stop himself. But horses often get credit for this kind of cunning and vice when the run-away proceeds from quite another cause, namely, the state of his mouth. A very high-spirited horse would mostly run away, if we would let him; that is, he would get on from seven miles an hour to twelve, then he would break into a gallop, and thus end in a complete run-away, without its having been in any way premeditated. This is all from want of, in technical terms, "hands" on the part of the coachman or rider, as the case may be. On first starting, the horse's mouth is tender, and if properly bitted he feels the influence of the bit; this he would continue to do to his jour-

ney's end, if his driver knows what he is about. The horse, we will say, after going a mile or two, begins to find his mouth not so sensitive as at first,—so he pulls a little stronger: here half, and more, drivers would pull the stronger at him, so they each take “a long pull, and a strong pull, and a pull” both “together.” The horse increases his pull,—so does the driver; then the horse begins a determined pull and “sets his jaw;” the driver places his feet more forward, and his hands also, and probably likewise sets his jaw, or makes some such face indicative of the exertion he is using. It's all up now; the mouth has got so dead, that it no more feels the bit than his hoof would, and away he goes. This may have all proceeded from high mettle only: had his mouth been kept alive, he would have been kept to a proper pace; he was allowed to increase it—his blood then got up, and then, and not till then, he set-to in earnest, and from that time certainly determined on going off, and with such a driver, or a man with such hands, would always do the same thing.

A light hand will hold a horse when a stronger arm cannot, for this reason,—he will not let the horse pull at *him*; just as an expert fisherman will hold a large fish with a single hair. I could perhaps hold a stubborn pig with a rope in his mouth as well as Isaak Walton; but if I had twenty trout at the end of my line, they would all break away from me as the horse would do from the driver I have described. Why? Because I am a muff with a rod in my hand, as the other is with a pair of reins in his.

Running away when ridden is a propensity somewhat more difficult to account for than when done with a carriage behind the animal, for here fright from the vehicle cannot be brought in extenuation of the act; but fear or dislike of the rider may, and, if so, it may not proceed from vicious disposition. The horse has probably got rid of his burden on some former occasion by this manœuvre, so with this intent he tries it again. But why does he so dislike a rider? No doubt from having suffered by one. Here, as in driving, “hands” and a proper bit are the only remedies.

REARING.

This is unquestionably the most dangerous vice a horse can have; it is a truly awful one, for it renders the rider helpless. No hands, no horsemanship, can keep a determined rearer down: a bit for the purpose will check most horses, and entirely frustrate and eventually cure others, but without one the best of riders is completely foiled by a rearer. Horses are cunning enough to know it, and this knowledge makes it so difficult, and often impossible, to break them of the habit. The closer the rider sits, the higher

the horse rears in order to displace him; and old offenders, if they find they have a man on them determined to keep on, will rear so high as to fall backwards. If the horse only rears, but is not in other respects stubborn or restive, an easy bit, very light hands, and very gentle usage, will probably prevent, or, more properly speaking, will not cause him to do it; but if he is restive, that is, will go one way when we want him to go another, the chances are he beats us; for the moment his head is turned towards the road or place we wish him to go to, up he goes.

I bought one in Ireland, knowing he was addicted to rearing, but certainly not knowing he was restive also. Getting that for thirty-six guineas that, in shape, action, size, and beauty, looked like four times the sum, tempted me. The first time I rode him I wanted to go a few miles from Dublin; he went about two miles as pleasantly as any horse living could: on a sudden he stopped, wheeled round, and bolted on the road back. I pulled him up, and turned him the way we had been going. Up he went, and on coming down, as before, bolted back. I did as before; so did he the moment I did so. The rogue by this manœuvre got each time, perhaps, fifty yards nearer the town. We both worked away in this manner for two full hours, at the expiration of which I found myself within a quarter of a mile of Dublin. I found he was beginning to tire of this—I had been tired of it long enough; however, on again turning him, he voluntarily trotted off the road I wanted to go: he was beat, fairly tired of his own game. He never was with me any thing like so bad afterwards; after a rear or two he would always knock under. Still he was dangerous. I broke him to harness, and sold him for seventy, as a match for three others. At this work or in the stable there could be no better-tempered animal.

I have not the slightest doubt but this horse had, as a colt, been given to some bull-rider of a breaker, whose rude hands had brought him, or occasioned him, to rear; by doing this he found he could get, and go, his own way. In fact, he beat the breaker; and so, in truth, he did all of us, more or less. He probably found me his most troublesome customer, simply because I had patience, perseverance, and, above all, command of temper. I have no doubt he had thrown many persons who had not;—hundreds are thrown from such a cause. I will not allow that this was a vicious horse: he had been taught a vice, or, at all events, that had been done to him that had produced the vice. If he was really naturally vicious, why did he go quietly in harness the first time I put him in it? This he did, and with as much docility as if he had been at it from the day he was taken in hand.

KICKING WHEN MOUNTED.

This, if not accompanied by plunging, is really more a nasty trick or habit than a vice: possibly in many cases the rogue does it to get one off his back. But it is often brought on by a saddle being put on when the back has been sore; perhaps he has got rid of a rider by this, and so does it again. But it is not unfrequently taught by boys pinching the spine behind the saddle; a very common habit with such youngsters when at exercise, if not well watched. I saw a horse, a few weeks since, that had this habit; he was, and is, always obliged to be mounted in some place before he is taken into the street or road: here he has his kick out, and is then quiet for the day, dismount and mount as often as you please. I saw him kick a very good riding boy off his back three separate times: he only gave one kick each bout; but, the boy being light, he went off like a tennis ball. The moment the lad was off, the horse was tranquil, as if nothing had happened. The next time the boy started him off in a gallop before he had time to kick; on pulling him up, the master mounted, and the horse went off perfectly quiet.

I had a mare that would always kick, but not violently, on first being mounted, either with a saddle, or her clothing, or bare-backed. She was very handsome, and a beautiful goer. My wife took a fancy to have her for her own riding, much to my alarm. However, the side-saddle was put on, and two men and myself ready to hold her if necessary. My wife got on her: to our astonishment the mare walked off, and never then or after attempted to kick with a side-saddle on; but was just the same as ever when a man or boy mounted her. No doubt she had been ill-used or played tricks with by some one of the he generation, but never by a woman. We must not call this vice.

The only thing to do with a horse that has this donkey-like trick is, first, to abstain from doing that which some persons would recommend, namely, punishing him for it. Beating a horse for vice, or, in more common and vulgar phrase, "licking it out of him," I think I may say always makes him worse. If it is merely a trick, it does not deserve severe punishment; by administering which the horse becomes ill-tempered, and does the same thing more violently from dislike, than he did before from habit. If it is from sheer vice, whoever pleases may try the effect of severity with something like justice on their side; but they will rarely find it answer.

GETTING THE BIT ON THE JAW.

If a horse does this, and runs away afterwards, I fancy I can hear some one say, "What a consummate and determined villain such a horse may be!—he cunningly holds the bit so that it cannot affect him, and then runs off." Any one making such a remark jumps to a conclusion as quickly as the horse jumps off; a really erroneous idea runs away with him as fast as the horse could do. I beg, with permission, to give it as my opinion, that the getting the bit on the jaw has nothing at all to do with any premeditated resolve to run away, though it will have a great deal to do with the run away if the horse does start off. The truth of the matter is this: the animal has a tender mouth (at least it is mostly tender-mouthed horses that have this trick); he finds the bit hurts him, and very wisely lays hold of it to prevent this. Now, a heavy, boring beast seldom attempts it; nor would the other with a bit that did not hurt him—at least very few would, unless it had grown a confirmed habit. We will say that from some cause a horse does run away, after having secured the bit: why does he so? Because, having the bit so that it cannot hurt him, he finds he can run away. If it was not there, it would prevent him. He feels that, so does not make the attempt; but feeling nothing to impede him, he does. But to suppose the horse actually lays hold of the bit for the purpose of enabling him to start off, is delegating to him powers of reasoning that, sensible as horses are, I do not conceive they possess.

It is no uncommon thing to see a horse, if taken from a carriage and left loose (while the other is being taken off), start off and run away. We might as well suppose he had all day contemplated running off, and only waited being taken from the carriage to do so. The case is, that while in harness habit and the weight of the carriage keep him in subjection; when taken from it he feels himself at liberty, and makes use of it: so when the horse has got hold of the bit he feels to a certain degree unrestrained; and then he, like many other wild young gentlemen, "is in for a lark."

In mentioning, as I have done in this paper, some of the habits and tricks of what are termed vicious horses, I beg to remark that in doing so I have not attempted to point out the mode of either curing, correcting, or palliating such propensities—to do so would fill a volume; and then few persons have time, patience, perseverance, opportunity, and inclination, to undertake such a task; and all these are indispensable to effecting such a purpose: even supposing any one to have all these, it would then require years of practice to enable him to set about it properly and with a fair

chance of success. I should therefore strongly advise the generality of persons having a vicious horse not to attempt a cure. There are but two things for such persons to do;—send the rebel to some one perfectly qualified to undertake his management, or sell the animal at once.

My object has been to shew, that though vice may be exhibited in a horse in its worst shape, it by no means follows that it proceeds from a vicious disposition. If persons would be as satisfied of this as long practice has made me, they would also be satisfied that to resort to punishment and brute force *as a commencement* is the very worst step that can be taken; independent of being, in the majority of cases, a dangerous, and, in fact, unjust one.

I do not quarrel with the term vicious, for a horse having a bad vice is vicious; that is, he is vicious so far as that particular vice goes. The first thing, therefore is to turn in our minds the probable cause of the effect. Having done so, begin, if possible with the cause. Do away with the remembrance of that; and in very many cases the effect would cease, without giving us much trouble.

A dog is naturally a fond, domestic animal; but if he had been beaten, ill-used, and annoyed by a whole school of boys, he would learn to snap at all who approached him: would the rational mode of setting about eradicating this moroseness be to beat him? No; take him away from the annoyance; use him kindly: my life on it, in a short time he would become a faithful, attached friend and servant. With a horse of a generally good temper, but with some peculiar vice, I would say, *mutatis mutandis*, do the same thing.

H. H.

Foreign Department.

REPORT OF THE SUB-COMMITTEE APPOINTED TO EXAMINE INTO THE TEACHING OF VETERINARY MEDICINE IN FRANCE.

[Continued from page 107.]

Plan for the Re-organization of Veterinary Schools.

WITH a view of giving to veterinary instruction all the advantages which the progress of science and the requirements of agriculture and commerce call for, the committee have deemed it advisable to create nine professorial chairs, the respective *duties of which* will be as follows:—

1st Chair.—Veterinary Anatomy,

Comprising

The teaching of—A. General veterinary anatomy.

„ B. Special and comparative anatomy of every domestic animal.

Practical Means of Instruction and Demonstration.

1. Dissections actually performed by the pupils on the dead bodies of all domestic animals.

2. Making of anatomical preparations for the demonstration of the lecturer.

Personnel.

One professor and one *chef de service* to prepare.

Duties of these persons:—

1. The teaching of anatomy, surveillance and direction of the dissecting room.

2. Surveillance, conservation, and description of anatomical collections.

3. Surveillance, conservation, and collection of materiel for the anatomical chair.

Observations.—It would be advisable to attach to the anatomical chair two pupils in their second year (of attendance), chosen *by concours*, whose duties would be to assist the professors in the preparation of subjects for demonstration, and officiate as monitors to beginners in the dissecting room. In this recommendation the committee have not been prompted alone by the perfectionation which such would confer on the system of education, but have thought that such a plan would excite emulation among the pupils, while it tended to shew who among them evinced promise of one day being able to take the offices of teachers themselves.

The assistants in the anatomical department ought to receive remuneration.

2d Chair.—Veterinary Physiology and Zoology,

Comprising

The teaching of—A. Physiology, properly so called.

„ B. Zoology; comprising the generalities of the science, zoology as applied to domestic animals, and the study of entozoars and epizoars.

„ C. The exterior of domestic animals.

Practical Means of Instruction and Demonstration.

1. Experimentation on living animals for the study and demonstration of the functions of organs*.

2. Demonstration of the forms of animals in specimens of the different species.

3. Demonstrations by anatomical preparations and plates, of the different species of parasitic animals.

Personnel.

One professor, assisted in the repetition of his courses by the *chef de service* of another chair.

Observations.—The teaching of physiology in the veterinary schools has never been conducted with that importance which so principal a branch of science deserved. Consigned, as though it were a supplementary duty, to the professor of anatomy, it became comprised in from twelve to fifteen lectures, and these were counter-drawn from correspondent lectures on human physiology, and consequently, possessed the character neither of originality nor truth. To which we may add, so far as veterinary physiology is concerned, that the entire science almost has yet to be formed. Scanty have been the labours that have been bestowed upon it, for want of time, for want of means, and for want of persons specially engaged in it.

The committee have deemed it important to fill up a hiatus so considerable by proposing the institution of a special chair of physiology, to which might be attached sufficient means of experimentation and demonstration.

And it has completed the duties of this professorship by the addition of the lectures of the exterior of domestic animals, which, in truth, constitutes no more than a product of physiology; also it has endeavoured to remedy a main defect in this department of study by specifying that the demonstration of the external forms of animals should be made on the different types of the leading breeds brought under the notice of the pupil: the only way in which the lectures can be rendered of real value to him.

Lastly, for a true veterinary education there needed a course of zoology. This the committee have imposed upon the professor of physiology, in limiting it to the generalities of the science, to the pointing out of the zoologic characters of the different domestic animals, and to the study in detail of parasitic animals, which, according to the old method of teaching, became the objects of the

* We should be sorry to see such cruelty practised in our own schools even in the cause of science.—*Ed. Vet.*

professor of special pathology at the time of his treating of those particular diseases wherein such animals constituted either a cause or a symptom.

Thus constituted, the chair of veterinary physiology possesses an importance sufficient to justify its institution.

3d Chair.—Physics, Chemistry, and Pharmacy,

Comprising

The teaching of—A. Physics in general, and as applied to medicine and physiology.

„ B. Mineral and organic chemistry.

„ C. Pharmacy and materia medica.

Practical Means of Instruction and Demonstration.

1. Physical experiments for the demonstration of theoretical propositions.

2. Chemical experiments and analyses in demonstration of the lectures.

3. Pharmaceutical exercises to be practised by the pupils. The compounding by them, or under their immediate observation, of the medicines used in the hospitals. Collection and preservation of medicinal plants.

Personnel.

1st. A professor.

2dly. A *chef de service*.

3dly. A pharmacien, specially charged with the duties of the pharmacy.

Duties of the Personnel.

1. Professors—theoretical and practical teaching of the subjects proposed. The direction of the practical studies. The conservation of the *materiel* under his care.

2. THE CHEF-DE-SERVICE'S DUTIES to be, the preparation for the professor's lectures.—The surveillance and direction of the pupils in their practical studies.—The repetition of the professor's lectures.

3. THE PHARMACIEN'S DUTIES to be, the direction and care of the pharmacy.—The compounding of medicine.—The direction of the exercises in compounding practised by the pupils.

OBSERVATIONS.—The committee have thought it their duty to propose the addition to this chair of a *pharmacien* specially charged with the direction of the pharmacy, the compounding of medicines,

and the direction of the pupils in their exercises in practical pharmacy. In this new appointment they have had in view the saving of considerable expenditure to the State, inevitably resulting where from want of such surveillance in well-supplied pharmacies losses and waste attended the manipulation of substances, often costly, by young inexperienced hands without guides.

In considering in detail the requirements of the important chair now under consideration, and estimating its importance in veterinary instruction, the committee have foreseen the difficulty there must be, in carrying it into execution, of finding in the veterinary body men capable of meeting all its exigencies.

Chemistry has for some years past been making singularly large strides in advance. Even the life of a man now is hardly long enough for its study. It is only by a lengthened apprenticeship and continual application of mind that anybody can acquire that manual skill and superior theoretic knowledge without which experimental researches in chemistry are necessarily fruitless. But again, the concurrence of chemistry is indispensable to the solution of problems of practical medicine, of experimental physiology, of practical agriculture, legal medicine, &c. These considerations have convinced the committee that veterinary education would be without one of those elements most indispensable to its progress if the occupier of the chemical chair did not unite in his own person all the conditions required to solve the difficult and important questions of a science which might come under his investigation.

And therefore the Committee have judged it needful, for the interests both of science and instruction, to deviate from the principle which reserves to veterinarians alone the right of being chosen by concours to occupy the several chairs of the veterinary schools, and to permit, in the case of the chemical professorships only, the concours to be thrown open to all candidates, without requiring, as an indispensable qualification, the veterinary diploma.

The Committee believe to have insured, in the method they propose, the guarantee that the chair of chemistry will be always filled by men of first-rate talent in their sphere.

4th Chair.—Pathological Anatomy, Sanitary Police, and Legal Medicine,

Comprising

The teaching of—A. General Pathological Anatomy.

„ B. SANITARY POLICE, comprising the study of ENZOOTICS and EPIZOOTICS, of CONTAGIOUS DISEASES, and of the LEGISLATION APPLICABLE TO THEM.

„ C. LEGAL MEDICINE.

Practical Means of Instruction and Demonstration.

1. Anatomical preparations in the Museum.
2. Specimens afforded by post-mortem inspections, by operations, by experiment and clinique.
3. Missions confided to the professor of the clinical chair for epizootic and contagious diseases.
4. The drawing up of cases and verbal reports.
5. Toxicological experiments on animals.

Personnel.

One professor, assisted by the *chef de service* of another chair.
The above is a newly created chair. The want of it was much felt.

5th Chair.—Medical Pathology and Therapeutics,

Comprising

The teaching of—A. General Pathology ;
 „ B. Special Medical Pathology ;
 „ C. General Therapeutics ;
 „ D. Special Therapeutics.

Practical Means of Instruction and Demonstration.

1. The clinical study of diseases in the hospitals and schools.
2. Missions confided to the professor for the clinical study of diseases raging among cattle.
3. Experiments on animals of different species for studying and demonstrating the action of different medicinal substances in respect to their physiological, medical, and poisonous doses.
4. Practices in recording observations collected in the hospitals.

Personnel.

One professor, assisted in the repetition of his courses by one of the clinical *chefs de service*.

6th Chair.—Chirurgical Pathology, Manual Operation, and Shoeing,

Comprising

The teaching of—A. Chirurgical Pathology ;
 „ B. Manual Operation ;
 „ C. Theory and Practice of Shoeing.

Practical Means of Instruction and Demonstration.

1. Demonstration in the presence of the pupils of the rules to be observed in operating, both on the living and the dead subjects.

2. The practising of surgical operations by the pupils on living subjects.

3. Practices at the forge on shoeing during the entire term of the medical studies.

Personnel.

1. One professor.

2. A special *chef de service*.

3. A superintendent of the forges.

7th Chair.—Clinique and Special Pathological Anatomy,

Comprising

The teaching of—A. Clinical Surgery or Medicine ;

„ B. Special Pathological Anatomy.

Practical Means of Instruction and Demonstration.

1. Visits to the hospitals, comprising the study of diseases on the patients, interrogation of the pupils, the teaching of the different methods of observation, the indications in prescribing, &c.

2. Consultations about out-patients.

3. Surgical operations to be performed, and medical treatment to be pursued as well on out as on in patients.

4. The direction of the pupils in the application of remedies.

5. Autopsies, and the demonstrations they call for (or special pathological anatomy).

Personnel.

One professor and two special *chefs de service*.

8th Chair.—Agriculture and Botany, Hygiène and the Amelioration of Domestic Animals,

Comprising

The teaching of—A. Theoretical Agriculture as applied to the breeding and rearing of cattle.

„ B. Theoretical, and applied Botany.

„ C. General Hygiène.

„ D. The production, amelioration, and conservation of domestic animals.

Practical Means of Instruction and Demonstration.

1. The farm annexed to the school, containing different specimens of different breeds of domestic animals.
2. The culture of the farm with alimentary plants.
3. The gathering and harvesting of these plants.
4. The exposition and demonstration under the pupils' eyes, in the course of the lectures, of the different products of the farm.

Personnel.

One professor.

One *chef de service*.

One gardener, charged with the direction of the several cultures.

9th Chair.—Commercial Veterinary Jurisprudence,

Comprising

- The teaching of—
- | | |
|----|---|
| A. | Laws regulating the traffic in animals. |
| „ | B. The diseases for which they are returnable. |
| „ | C. The veterinarian's duties in any dispute that may arise therefrom. |

Practical Means of Instruction and Demonstration.

1. The different cases of commercial jurisprudence which are submitted to the judgment and arbitration of the professors.
2. Processes in drawing up reports and *procès verbaux*.

Mode of Nominating Professors.

After having founded veterinary instruction on the novel basis recommended, the Committee gave their attention to the grave question of ascertaining the best mode to be pursued in the election of professors; a question that has undergone much discussion for some years past in the learned societies, both of Academicians and of Faculties, who, in general, have pronounced in favour of the *concours*.

AND THIS PRINCIPLE THE COMMITTEE HAVE UNANIMOUSLY ADOPTED.

And, in the opinion of the Committee, the jury composing the *concours* ought to take as their guides in deciding upon the candidate three leading considerations:—his qualifications as a professor and as an artist, which will shew themselves in the testing of the *concours*; and his pretensions as a *savant*, which will become apparent in his learned works.

THE VETERINARIAN, MARCH 1, 1849.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

WHILE the by-laws are in the hands of the Committee, we do not know that we can devote our leading article to a more useful purpose than that of keeping the subject alive before our readers. It is a subject of such general and paramount import to the profession, that it has been our wish from the moment we heard the by-laws were again to undergo "revision," and still continues to be our earnest desire, that every member of the corporate body should, by letter or through his representative in Council, take part in its discussion. The opportunity is a golden one—one once lost not in a hurry to be regained, and therefore ought by the members of the profession to have due value set upon it. For our own part, we would endeavour to place ourselves in a position to take fair, honest, impartial views of the laws in question. We would set about inquiring, first, into the power or right Council possess to make by-laws; secondly, into the restrictions imposed upon such power; and, thirdly, into the objects to be kept in view in the exercise of such power.

It must be evident to all, that the power to make laws for "the direction and management of the concerns of the body politic and corporate" emanates from the Charter; and that as the Charter alone can convey such power, so cannot such power be exercised in repugnance to the "presents" of the said Charter. The Charter itself is sufficiently explicit upon this palpable point of law; and, moreover, the same point is stoutly enforced in the opinions of counsel which we cited last month. "By-laws, even if good in themselves," says Mr. Hill, "are invalid if made in any other manner than that prescribed by the Charter." Sir Fitzroy Kelly and Mr. Peacock certify strongly to the same intent: "By-laws are invalid if not enacted * * in all respects conformably to the provisions of the Charter." These opinions, be it observed, call nowise into question the Council's right *to make laws*; they only warn that body, that by-laws made without the pale of, or

inconformably to, "the provisions of the Charter," are not legally binding on the corporate body. The Council must not forget they are the servants of the Charter; not its masters. Whatever latitude of construction certain paragraphs and clauses of the Charter may admit of, one step in their transactions beyond the demarcation of the law jeopardizes any enactment the Council may determine on making.

If these observations be founded in reason and in law, we shall not be found fault with for proposing to subject any by-law of questionable validity to the test they so naturally suggest. A by-law, if valid, will find its guarantee in the Charter; *ergo*, one for which the Charter contains no authority must be pronounced invalid. Let us by this ready and pretty unequivocal test try the substantiality of the by-laws relating to apprenticeship. Does the Charter authorize the Council to make such laws?

We read in the Charter—"That the Council shall have the entire management of and superintendence over the affairs, concerns, and property of the body politic and corporate, &c.; and also shall and may make any orders, rules, and by-laws for the regulation of the Council, and for the management of the estates, goods, &c.; and the same orders, rules, and by-laws, from time to time, to alter, suspend, or repeal, and to make new orders, rules, and by-laws, in their stead, as the Council shall think most proper and expedient, *so as the same may be not repugnant to these presents or the laws of this our realm.*" In another place, where the Charter is declared to be granted to petitioners, and such other persons as "shall pass such examination as may be required by the orders, rules, and by-laws which shall be framed and confirmed *pursuant to these presents*, shall by virtue of these presents be members of and form one body politic and corporate," &c.

From this, it is clearly evident that the Council's right to make by-laws is restricted—and very properly restricted—by their not being repugnant to the "presents" or instructions of the Charter; and that the validity or invalidity of the by-laws relating to apprenticeship must be decided by this and by no other test: and we must confess we are, after a strict and scrupulous reading of the Charter, inclined to the opinions of counsel, as stated in our last number, *viz. that the apprenticeship by-law cannot be maintained.*

As to the policy or advisability of apprenticeship as a preparation for or an indispensable to the efficient practice of our art, that is a question which must merge into, or at all events wait upon, the question of legality. If the Council possess no right to enact such laws—and that is our present opinion—it would be folly to enter into discussion as to their expediency or utility.

If, however, the Council be denied the power of making laws interfering with the curriculum of study at the “colleges” or schools *as established upon record in the Charter*—and which we, for our own part, do not feel inclined to dispute—yet are such powers very clearly laid down in the Charter as authorize the Council to prescribe their own “*manner of examining* students who shall have been educated at the Royal Veterinary College of London, or the Veterinary College of Edinburgh, or such other veterinary college, &c. ;” and also to regulate “the nature and extent of such examinations.” So that, after all, the Council possess the power in their own hands, though it is in another form, of shutting the door against all candidates for admission into the corporate body who may not, according to any estimate of acquirements they may choose to set up, appear to them qualified to enter into practice. And so long as the Council have it in their power, through their examining committee, of erecting their own standard of qualification, we really do not, for our own part, understand why it is they trouble themselves so much about where or by whom or how the candidates coming before them have received their education.

It will be seen in this and our last impression that Mr. Haycock, of Huddersfield, whose name has a high standing in some former numbers of our Journal, has re-commenced his “contributions,” in a series of articles containing cases and observations on some of the principal or least understood diseases of horses; which, from their evident faithfulness of design, from their accurate and graphic execution, veritably deserve the title of “portraits after nature.” There is no branch of our art more imperatively calling upon us for improvement than veterinary pathology; and that practitioner alone will cultivate it with any successful results who finds he can give his mind, and his body too, up to patient,

tedious, and wearisome observation of events and circumstances, such as they present themselves in respect to the living body, be it in health or be it in disease. The medical inquirer will first have to note normal phenomena, then anormal, and afterwards such as are the results of any remedies he may have employed for the removal of the latter. Nor will his duties end here. For he will have, in recording such phenomena, to theorize or give reasons for their appearing and changing under such and such circumstances, and so, to the extent that he is able, unravel Nature's thread of mystic workings. Mr. Haycock shews himself in the character of a close observer, and a keen one. Observations and results such as he has treasured up, in the course of many years of practice, in time will be found to turn out the foundation stones upon which alone can be built up the science and practice of veterinary pathology.

WE are at a loss to know what Mr. Cox means by "the special examinations which have lately been brought before us in your Journal*." We would remind him, there has been but one occasion on which the Veterinary Examiners have met *especially* for the examination of candidates for diplomas: and that was in the case of the late Mr. King, of Stanmore, and of Mr. Arthur Cherry, the present Registrar of the College. "Specials," as both these gentlemen acknowledgedly were, we do not suppose Mr. Cox will for a moment question their qualifications as veterinary surgeons; or presume to say that either of these gentlemen—although one bore at the time of his examination the venerable marks of age upon him—did not well merit the honours thus "specially" conferred upon him. And in neither case was any secresy or smuggling employed; both their examinations being notified at the time, in the usual form, in THE VETERINARIAN. And as for the accusation against the Council, that "they are passing persons contrary to the by-laws," it is too palpably absurd to merit reply.

* See his Letter at page 137.

MISCELLANEA.

MAN v. HORSE.

AFTER the last race of the Union Hunt Club meeting, a very novel jumping match, for £50 a-side, over a hurdle about four feet high, came off between Mr. C. H. Reynard and Mr. William Watts' horse, the veterinary surgeon of Settrington, by Irish Bird-catcher, dam by Fungus, five years old. The conditions of the match were, that it should be a clear leap, and, in the event of both of them clearing it, the hurdles were then to be raised higher, until one or the other was beaten. Mr. B. B. Thompson was chosen umpire. The toss for choice of jumping first was won by Mr. Reynard, when he ordered the horse to leap first. The horse then came at the hurdle, ridden by William Wilson, but did not succeed in clearing it, slightly tipping the hurdle as he went over. It was now Mr. Reynard's turn to jump, when he cleared the hurdle at the first attempt, and consequently won the match. Wilson then tried the horse at a much greater height, when he proved himself a first-rate leaper. Mr. Moore, the owner of Wolf Dog, also mounted the horse, and took him across the hurdles in a very gallant manner. The horse stands about 15 hands high.

Weekly Times.

IT is an extraordinary feature of this part of the coast (the African territory, called LIBERIA, lying between Sierra Leone and Cape Palmas) that horses and other draught animals will not live, and since every kind of transport, except that upon the rivers, is performed by manual labour. Much of the camwood which is exported from Liberia is brought 200 miles upon men's backs. It is seen, however, that this difficulty, which appears a great one at first, may have the effect not only of inuring the people to labour, but of stimulating them to every kind of mechanical contrivance by which it may be overcome. The climate of Liberia, although more healthy than Sierra Leone, is still deadly to the European; but the improvement it has undergone during the last ten years *from the effect of clearing, drainage, &c.* is stated to have been most remarkable. The coloured immigrants from America, who used invariably to suffer from fever on their arrival, are now able to go to work at once. The duration of life among the colonists is considered to be about the same as in England.—*Times.*

FINANCES OF THE ROYAL COLLEGE OF SURGEONS.

FROM a report recently published (by authority) it appears that the receipts and expenditure of the College of Surgeons, from the 30th June 1847, to the 30th June 1848, were, of the former, £9562..10s..10d.; of the latter, £9468..5s..9d. (exclusive of the amount required for the purchase of Alderman Copeland's premises, which, with the expenses of conveyance, reached the sum of £16,341..10s..2d.). The receipts were derived from the following sources:—

The Court of Examiners	£7796	7	0
Fees on the admission of Fellows	220	10	0
Fees on the admission of the Council and Court of Examiners	21	0	0
Dividends on investments in Government securi- ties	1492	17	10
Sale of Lists of Members and of Catalogues	31	16	0
	<hr/> £9562 10 10		

SALE OF DISEASED CATTLE.—*Important Decision.*

Archibald Turnbull, Esq., of Bellwood, having bought a lot of stots from Mr. Fenton, farmer and cattle-dealer at Foldend, by Forfar, on last Dundee September market, one of which proved to be diseased with pleuro-pneumonia, and died ten or eleven days after the said purchase; an action was raised by Mr. Turnbull for recovery of the purchase-money, before the Sheriff Court in Forfar; when, after a proof being led on both sides of the case, the Sheriff decided that the pursuer had proved his case, principally on the evidence of Mr. Sidney, veterinary surgeon, Pitcairngreen, Perthshire, who dissected the animal, and gave decret in his favour accordingly. Parties having diseased cattle ought, therefore, to be cautious how they offer such for sale in future. We believe this is the first case of the kind which has been tried in this quarter.—*Perth Courier.*

MEMORANDUM.

AT the request of the Secretary we insert the following:—
In the Council Report for January 19, 1849, at page 115, lines 27, 28, 29, read, "The Secretary having been called on by the President to bring forward any propositions he may have to offer in connexion with the motion he had given, declined, under the circumstances of the case, at present doing so."

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CONTRIBUTIONS TO THE PATHOLOGY AND PRACTICE OF
VETERINARY MEDICINE.

By W. HAYCOCK, *Veterinary Surgeon,*

(Member of the Veterinary College, Edinburgh)

King-street, Huddersfield.

THIRD CONTRIBUTION.

Typhoid Pneumonia, &c.

August 23, 1843.—WAS requested about five o'clock P.M. to attend upon a mare belonging to T. Brook, Esq., of this town.

History, &c.—The animal is of a brown colour; six years old; stands about fifteen hands two inches and a half high; is of the coach-horse breed; has been in the possession of her present owner about eight months, during which time she has not thriven so well. She is far from being a hardy animal; not a mare at all of spirit, and, so far as I can learn, never was. For some time past she has coughed a little, which cough, from the first, has been somewhat short and dry in its character. Some four or five days ago she manifested symptoms of catarrh. This afternoon she has appeared worse, and I am desired to attend.

Present Symptoms.—The extremities are warm; the eyes have a languid, dull appearance; the Schneiderian membrane is shadowy, i. e. some portions are redder than others; and a blue tinge over the whole, so far as perceptible, is seen; the glands at the side of the throat are swollen, and a little difficulty is experienced in swallowing food and water. The mouth is far from clean; the pulse is 58, and the respirations are 14 per minute. On applying my ear to the chest, on the superior and inferior regions of both sides, the respiratory sound, generally, I find is subdued; I cannot detect, however, the least cessation in its course; it simply wants elasticity, or greater hollowness of sound. A soft mucous râle is present in the bronchial tubes; she coughs now and then, which

is moist in character, but not sonorous : the appetite is moderate for a sick horse.

Treatment.—I gave the following in a drench :—

R	Potass. nitratis	3ij
	Antim. tart.....	3jss
	Aloes barb. pulv.	3ij
	Spirit. nitric.....	3ij
	Aquæ.....	3vi

To be made as comfortable in the stall as she can be ; to have a bran mash to eat, and linseed tea to drink.

24th.—*Eight o'clock*, A.M. : She has drunk some gruel and eaten a portion of mash ; she does not appear to have lain during the night ; pulse 70 per minute, and respirations 17. The character of the pulse is somewhat peculiar : when lightly pressed, it feels full, strong, and round ; but its action by almost the slightest increase of pressure is lost. The respiratory murmur is changed since last evening ; it is more dead or subdued ; and this deadness is more evident on the right than the left side : still I cannot detect the slightest interruption to its course through the lungs. The mucous râle is also louder ; the extremities less warm ; cough more severe, and, when it comes on, she seems afraid to give it force ; it is constrained and suffocative : in short, she is worse in every respect.

Treatment.—Gave the following in a drench :—

R	Potassæ nitratis	3ij
	Antim. tart.....	3j
	Pulv. camphoræ.....	3j
	Pulv. digitalis.....	3j
	Spirit. nitric.....	3iij
	Aquæ	3viij

The hair to be closely cut from each side of the chest over a considerable surface, and a strong blister rubbed in to the exposed parts ; bandage legs ; clothe a little more, and give linseed tea or oatmeal gruel to drink, also a few boiled oats and a little bran mash to eat.

Eight o'clock, P.M.—During the day I have seen the mare on two or three occasions ; to-night, however, I again made another systematic examination. Pulse 72, and softer than in the morning ; respirations 17 per minute ; respiratory murmur faint and dead on the right side, on the left more clear ; mucous râle not so loud ; it, however, changes a great deal : at times, during the day, it was loud, while at other times it could scarcely be heard at all. Legs cold ; the hair over the surface of the body is dry-looking : the eye is dim, and has a sunken appearance ; the mucous membrane of the nose is bluer than when I last noticed it. When she coughs,

she stands rigid, hangs the head, and seems greatly averse to the act; the cough is short and catching, and attended with a tremor of the muscles at the sides.

Repeat medicine; cut away the hair along the course of the trachea and in front of the breast, and blister the parts; also apply more blister to the sides.

25th.—*Eight o'clock*, A.M.: This morning she appears somewhat better in one or two respects; she has eaten a little; drunk some gruel; has dunged twice during the night; pulse 74 and respirations 18 per minute; cough the same; extremities cold; mucous râle not heard in the bronchial tubes, but I hear a croaking sound, which apparently is confined to the nostrils or top of the larynx. The blisters have acted a little both on the sides of the chest and down the course of the neck.

Gave the following in a drench:—

R	Potass. nitratis.....	3ij
	Pulv. camphoræ	3j
	Digitalis	3j
	Acetat ammoniæ	3v
	Spirit. nitric.	3iij
	Aquæ	3vj

To have a little of any thing to eat she will take; the neck and sides to be washed. At noon I gave another dose of the acetate of ammonia and spirit of nitre.

Nine o'clock, P.M.—Much the same as in the morning: repeat medicine.

26th.—*Seven o'clock*, A.M.: No better; she, however, has eaten a little, and the bowels are regular; pulse 77, and wiry; respirations 14 per minute; dulness over the whole chest; sometimes the murmur is clearer than at others. On the inferior region of the right side I have twice distinctly detected the veiled puff; a little effusion has also taken place; cough constrained and suffocative; breath foetid; three of the extremities are cold, and the fourth warm.

Repeat medicine. The day being very warm and fine, I had her led into a field adjoining the stable, and turned loose: instead of attempting, however, to eat, she wanders slowly about. Her walk is feeble, and she takes not the slightest notice of any thing: she remained out about two hours.

Nine o'clock, P.M.—To-night the mare is in that peculiar lingering state which I detest: pulse 75 and respiration 16 per minute: the mucous râle is so very loud that I cannot detect any other sound—it masks it completely; I can hear the râle the length of the stable. When I was giving the medicine to her, she coughed violently, and immediately after there issued from both her nostrils

a quantity of yeasty-looking matter, the fetor from which was really horrible.

27th.—*Nine o'clock, A.M.* : Pulse 75, respirations 18 per minute; discharge from the nostrils copious, and of the same offensive smell. I can easily detect the metallic tinkle in the chest; the effusion, I also believe, has greatly increased; mucous râle at present subdued. Very little change took place during the day, and my treatment consisted of stimulants. I gave port wine and Peruvian bark, brandy, spirits of nitre, and, also, a quantity of yeast.

28th.—Throughout the whole of to-day she has been much the same as yesterday: mucous râle at times very loud; a diffuse sibulous sound was present, particularly on the left side; pulse 76 and respirations 15 per minute; extremities warm. Continue the administration of stimulants, and give an ounce of yeast every three hours.

29th.—This morning she is weaker: the appetite is gone; she begins to have a very emaciated appearance; the extremities, ears, &c., are very cold; pulse 89 and respirations 22 per minute: the muscles of both shoulders and left hind leg exhibit an involuntary jerking kind of motion. During the day the mucous râle was sometimes uncommonly loud; when it subsides I can detect a ringing kind of sound: it exactly resembles the sound caused by drops of water falling into a deep well. The action of the heart is masked; every time it beats a quantity of fluid seems to be forced away from it. On the left side, for about ten inches in length, and along its medium plane, I can detect the moist crepitus rhonchus. This sound, about which many comparisons have been made, exactly resembles the frizzling of paint when spread over a board or canvass and held before a large fire. Not only is the length over which this sound is heard considerable, but its breadth is considerable also. The effusion appears to have increased very much during the last twelve or fourteen hours; the discharge from the nose continues unabated; and the cough exhibits the same peculiarity it has done from the commencement. To continue the use of the yeast.

30th.—On going this morning I fully expected to find my patient dead, which, however, was not the case—she was down upon the floor: a cold sweat bedewed the skin; the extremities were warm; and the eye glassy. She lay in this state about two hours, and died.

Examination two hours after death.—*State of the Digestive Organs*: The stomach contained a small portion of food scarcely, if at all, acted upon; the mucous membrane of this organ, of the

small and large bowels, was pale in colour; the external surface of the stomach presented a pale pea-green tint: its muscular tunic was easily lacerated. This was the case with the coats of the bowels also; a very gentle force sufficed to tear them in pieces. The liver was moderately sound, its colour pale, and when broken up the granular character was evident.

Urinary Organs.—The kidneys, in appearance, were healthy, but their substance was soft; the ureters and bladder normal.

Thoracic Organs.—When the chest was opened, its contents presented a strangely diseased appearance: throughout the whole of the lungs I could not detect a single portion of sound substance; their structure was destroyed, and, I may add, entirely gangrenous. The right lung had formed an adhesion along its whole length a little wide of the spinal column: the adhering substance was of a yellowish white colour, and resembled a mixture of pus and fibrine. This substance was very abundant, and was of the consistence of moderate thick jelly. The right lung also contained a large cavity, which was about three parts filled with the yeasty-looking matter, similar to that discharged from the nostrils: quantities of this substance were also present in the larger bronchial tubes. The left lung was not so far advanced in disease; adhesive matter between it and the pleura was present, but the surfaces involved were not so extensive; the same kind of sanious matter was also present in considerable abundance. The trachea was in a diseased condition; its mucous membrane along its whole extent, over the larynx, esophagus, nostrils, mouth, &c., was more or less gangrenous. The serous membrane covering the costæ and the anterior surface of the diaphragm was of a dull, dirty green colour, and a very little force caused it to slough from the subtextures: it peeled away, in fact, like wet paper, and a dark liver-coloured surface was exposed. The chest contained about twelve or thirteen quarts of liquid, in which floated masses of lymph, portions of lung, &c.

Circulatory Organs.—The heart was moderately firm in its structure, but pale externally; its left ventricle contained a portion of blood not unlike blue ink, which was in a semi-coagulated state: the lining membrane of the ventricle had the same blue or rather blue greenish tint; the valves to all appearance were healthy. The heart, freed from other textures, weighed exactly seven pounds four ounces avoirdupois.

Arteries.—The large arteries, such as the aorta, throughout its entire length, to where it divides into the iliacs, appeared normal, with the exception of being softer than natural: the colour internally was shadowy; but I could not say such colour resulted from disease in the serous membrane itself.

Veins.—I carefully examined all the large veins, such as the

anterior vena cava, posterior ditto, iliacs, jugulars, &c.; and the internal membrane of these vessels was highly diseased; lengthened patches of blue, merging into the dull green colour so common, were present, and the structures composing these vessels tore into shreds with perfect ease: they contained blood such as I found in the heart.

Muscular System.—With respect to the entire muscles of the body, including the voluntary and involuntary classes, I may observe that every one I examined, such as the diaphragm, the intercostal muscles, the psoæ ditto, muscles in the region of the shoulders, abdomen, &c. were all in a very softened state: very little force was sufficient to separate their fibres, and tear them asunder.

Nervous System.—The substance of the brain was very much softened, and its colour was changed: when the centrum ovale was exposed, instead of the clear white surface of health, it was a mixture of a pale dirty brown and white: some serum was at the base and in the ventricles of the organ. The medulla and spinal column, so far as I examined, presented the same dirty aspect. I could not detect any change peculiar to the large nerves.

CASE II.

February 3, 1847—Was requested, about 8 o'clock, P.M., to attend upon a mare belonging to Mr. George Roberts, mill-owner, in this town.

History, &c.—The animal is of a bay colour, of the light draught breed, rising nine years of age, stands fifteen hands three inches high, and has been in the hands of the present owner about three years. Six months ago she had an attack of the epidemic catarrh which prevailed at that time more or less in this district: this attack left the animal affected with a cough, which has continued from that period to the present; prior to this illness, however, she was never, from a foal, known to have suffered from disease. Mr. Roberts purchased her of the individual who bred her, and, from only having been the property of two persons, her history was readily obtained. The labour of the animal is somewhat heavy, but regular; it consists in leading coals to supply the factory engine, with occasionally a little farming labour. On the 1st of the present month (February 1847) she was observed to be unwell, but, as the symptoms did not to the owner appear at all urgent in their nature, he had her kept warm, and liberally supplied with bran mashes and linseed gruel: on the evening of the 3d, however, she appeared so much worse that I was requested to attend.

Present Symptoms.—The head of the mare is drooping; the eyes dull; three of the extremities are preternaturally warm, the other is cold; the hair over the surface of the body has a very dull unhealthy appearance. When I press my hand against the sides of the chest, a soreness is manifest, and a slight tremor of the panniculus carnosus muscle is evinced: this soreness is a little more acute on the right than on the left side; the mucous membrane of the nose is of a dull red, and shadowy; the pulse is feeble, and beats at 70 per minute; respiration 15 ditto. On applying my ear along the course of the trachea, commencing superiorly, I hear a soft mucous râle, which slightly increases in loudness as I approach with my ear to the breast: close to where the trachea enters the chest the râle is most intense; the loudest to , however, is very low, compared with the same kind of sound I have heard under similar circumstances. The respiratory murmur I hear over the whole of the left side of the chest; its highest tone on this side is parallel to and about four inches wide of the spinal column; in the regions more inferior it becomes more subdued: on the right side, along its superior part, the sound is very similar, but along the median region it is decidedly more subdued, and in the inferior region it has entirely ceased.

In this case I need not take the reader through the daily progress of the disease; its course was so closely similar in every respect to the first, that to do so would be little else than to give a mere repetition of what I have already stated; suffice it to say, that the animal died during the afternoon of the 11th: that, for three days prior to death, yeasty-looking matter was discharged from the nostrils, of a most intolerable stench; and that, about the time this discharge commenced, the skin in one or two parts, particularly about the right shoulder, appeared a little inflated; and this, when pressed upon, caused a cracking sound, which I have no doubt arose from gas or air being collected in the cellular tissue of the part, which, when pressed upon, ruptured the cells of the tissue, and thus caused the crepitation alluded to.

Examination seventeen hours after death. Abdominal Viscera: The stomach was empty, also the small intestines—the large intestines contained brown matter in a semi-fluid state. The colour of the mucous membrane was a pale dull red, with here and there a darker tinge intermixed with blue; the colour of the peritoneum was normal. The liver was very sound, but pale. The intestines, from the commencement to the end, were softened, and very little exertion sufficed to tear their tissues asunder.

Organs of the Chest.—The substance of the lungs and the bronchial tubes were in a state of disorganization—their structures were torn apart with very little force: numerous abscesses were

in the lungs, containing brown-coloured matter, and which brown matter also existed in abundance in the bronchial tubes: the mucous membrane of the trachea was of a dull green—the tube itself contained frothy spume. The chest contained about four quarts of dirty brown liquid. The pleura costalis, for the depth of about 10 or 12 inches at the inferior part, and on both sides, was of a dark dirty green aspect; the membrane easily sloughed from the ribs, and a liver-like surface was exposed. The heart was moderately firm in its texture, but pale; both its ventricles contained portions of very dark blood in a semi-coagulated state—its valves and other appendages were blueish in appearance. The organ, when divested of other structures, weighed eight pounds and a half avoirdupois.

The serous membrane of the large veins, or rather the internal membrane of them, presented the same diseased appearance I have so fully described in Case I; only in this case the textures of the veins were, I think, firmer. The blue tint of the lining membrane of the heart was, without doubt, the effect of disease; it parted from its muscular bed very readily.

Brain, &c.—The brain was much softer than natural; it felt to the touch like weak jelly; its lateral ventricles were free from exudation: the plexus choroides were pale and bloodless, and the medullary portion of the organ had a dirty appearance.

MUSCULAR SYSTEM. The muscles of animal life (and I examined a great portion of them in a rough way) were all of them very pale in colour, and so greatly softened that I could readily break up their structure with my finger. I hung a portion of the serratus-magnus muscle in a place so as to expose it fully to the air, and in the course of sixteen or eighteen hours it began to emit a bad smell and present other signs of rapid putridity.

REMARKS.—In no work upon horse pathology that I am acquainted with will the veterinary student find a satisfactory account of typhoid pneumonia*. Blaine, in his “*Outlines of the Veterinary Art*,” mentions the disease, but only in a very cursory manner†. Mr. Youatt is somewhat more copious; but what he says, strictly bearing upon the matter, consists entirely of a quotation which he gives from a communication sent to him by Mr. Percivall. Beyond these authorities, I am not aware of any thing else upon the subject. The reason why this disease has not met with that consideration it demands I conceive, perhaps, to be this: Typhoid pneumonia is always more or less prevalent during the

* Now and then a case is recorded of it under the name of “**Malignant Epidemic**.”

† I am not aware of any writer who has regarded this disease in its true light: strictly speaking, it has no place in any veterinary work.

existence of epidemic catarrh ; and veterinary surgeons, from this simple fact, appear hitherto to have regarded the former as an occasional or accidental termination of the latter rather than as a disease presenting specific characters, which it unquestionably does. Epidemic catarrh is one state—typhoid pneumonia another ; and although the two, when observed, are frequently associated, yet their attendant phenomena are so very different, that careful observation is all that is required to establish the truth of what I state in the mind of every one at all interested in the question. During the last five or six years I have seen a great deal of this affection, and the cases which I now give present, as a whole, about as clear a history of its commencement, progress, duration, and termination (in such cases as end fatally), as, perhaps, could be selected. At the time I was called to the first case, we find the disease in the transitory state, or passing, as it were, from its first to its second stage ; this is clearly shewn, if we closely consider the morbid phenomena presented. On the 23d, the respiratory murmur is subdued ; mucous râle soft. On the morning of the 24th, the murmur is more dead, particularly on the right side ; mucous râle louder, and pulse at 70. In the evening of the same day, we find the disease has reached its second stage ; and a portion, at least, of the right lung become solid, which is marked by absence of murmur, and increased difficulty and soreness when coughing. On the morning of the 26th, we have the veiled puff and fetor of the breath, which symptoms are clearly indicative of softening of the lung, attended with decomposition ; while in the evening this is more clearly proved by the discharge of yeast-like matter from the nostrils. On the 27th we have the metallic tinkle ; which again is the unerring sign of further decomposition and excavation in the pulmonic substance*. Thus we find cause and effect so closely allied one to the other, that in no other case, perhaps, could its progress have been more clearly marked. At the period I was called to the second case, we find the disease more advanced. The absence of the respiratory murmur over at least one-third of the entire lung of the right side proves that portion of it to have reached its second stage, or to have become solid,

* For a very instructive case, in which all these states were associated, see *VETERINARIAN* for 1841, page 177 : the case is given by Mr. Copeman. It is named "Malignant Epidemic ;" and it is the only case I have been enabled to find recorded in *THE VETERINARIAN* from 1841 to 1848 inclusive.

Arrange these associations thus :—

Asthenic Enteritis
 Asthenic Gastro-Enteritis
 Asthenic Pleuritis
 Asthenic Bronchitis.

and consequently impervious to air. These facts, then, testify, beyond the possibility of dispute, the value of auscultation in cases like the present. Many and many a time, when called to such, when no outward symptoms evinced the dangerous state of the patient, have I discovered by it solely the instant necessity of putting into force all the powerful remedies necessary to combat successfully its destructive progress, and by so doing have unquestionably saved the life of many a valuable animal. I do not know of any disease more deceptive to the owners of horses than this, its commencement is so very insidious, and its progress so quiet; and most probably at the very time such owners are congratulating themselves how cleverly they are managing without the assistance of a veterinary surgeon, is the disease, hour by hour, slowly but surely insinuating death into every fibre; and it is only when it reaches that stage when "he who runs may read," do they discover the necessity for assistance. The causes which produce this disease are, in most instances, I consider, very obscure in their nature. Assuming that it arises from a peculiar atmospheric poison, how are we to account for its action, save by combining with the blood? Shall we assume that this poison, being inhaled with the atmosphere into the lungs, and thence uniting with the blood, and by thus uniting changing the chemical relations of the whole—that thus vitiated, it circulates through the organism, producing changes in its solids and fluids of an asthenic nature, and giving rise to a train of phenomena which may be general or local, or both, according to constitutional predisposition in the system, or in particular organs of that system? Or shall we suppose that inflammation of an erysipelatous character, from some other cause, first commences in a portion of the mucous membrane of the air-passages; that this inflammation changing the secretions from an healthy to a morbid state, and that such morbid secretions, being imbibed into the blood current, vitiates in like manner to the former its entire mass; thence producing effects such as I have detailed? Or again, shall we assume that, under favourable circumstances, both these causes are occasionally, either singly or in combination, engaged in their production? Now, whether I have hit upon a true explanation of this intricate question or not, I do not pretend to be certain; to establish my assumptions as positive truths, would be a task of no little difficulty; and to dogmatise upon the matter would be absurd in the extreme. However, whether the primary cause or causes be local or general in it, or their action in the production of the disease, it is nevertheless certain that the morbid effects produced admit of ready detection through the organism at large; this is clearly proved in the cases given, by the softened state of

the mucous, serous, muscular, and nervous tissues of the entire body.

The disease in question prevails most in close and confined stables; and if neglected at the onset, it generally destroys the animal in the course of ten or twelve days, or even earlier; and sometimes it terminates by very extensive effusion, in which the animal either dies from suffocation, or very slowly recovers its wonted health and strength. I have seen it associated with epidemic catarrh, in which sore throat was a predominant state; also associated with asthenic enteritis, with asthenic gastro-enteritis*; and also when it appeared to be the primary disease or not complicated with any other.

During the last five or six years it has been either more common amongst horses, or its existence previously was not recognized; of the two, I am inclined in opinion to the former. Be it, however, as it may, the veterinarian at times is subject to great annoyance and distrust from those who employ him in such cases. I have myself experienced this in more instances than one. The owners seeing such linger day after day without any visible improvement, or any likelihood of such, become impatient: they ask what the disease is; and when told inflammation of the lungs, they directly refer to some stupid old author, such as White or Clater, or others of about the same caliber of mind, and in such works they find it stated, that in all cases of inflammation of these organs bleeding is the only remedy to save the animal; and they at once say, "why you have not bled my horse; if he had been bled, he would have recovered." And in most cases it is in vain to tell them, that the disease they have been reading about and the one with which their horse is affected are widely different in their nature; that though bleeding may be so necessary in the latter, yet to resort to it in cases like the present would be certain to destroy every possible chance of the animal's recovery, supposing any such to exist. The owner at last becomes impatient, tells him with emphasis that White says so, and that what White says must be true, "*because he was a doctor in the army.*" The veterinarian goes away inwardly lamenting that he is the victim of such gross prejudice, while the owner deems himself extremely unfortunate in having employed such an ignorant doctor. In vain will the reader search the old authors upon farriery for enlightened or comprehensive views upon equine pathology; he might as well suppose that blood is to be had out of granite: they knew little or nothing about it, consequently could tell nothing. True, it may be urged that many of these writers are popular; but the popularity of any thing, generally speaking, I contend, is no criterion of its intrinsic worth: most frequently it is the reverse, particularly if holding any rela-

tion to medicine, for upon no other question does the public exhibit such lamentable ignorance as this. In many districts, human quacks, horse quacks, and quacks medical of every grade, colour, and degree, will prosper surprisingly, while the most enlightened surgeon or veterinary surgeon can scrape but a bare sustenance; so much, then, for popularity, so far at least as medicine is concerned!

Having now considered, first, the careless manner with which veterinary writers have hitherto regarded this disease; secondly, enumerated the physical signs so well marked during the progress of the malady, especially in the first case, and from which I endeavoured to shew the great value of auscultation to veterinary surgeons in detecting the insidious commencement of cases like the present; thirdly, I have touched incidentally upon its causes, and attempted to account upon rational principles for the probable mode by which these causes produce such general morbid results; fourthly, I have hinted at the complications of this disease which occasionally are manifested in the same animal; and now, in conclusion, I have to offer to the reader, ere I close, a few additional remarks respecting the peculiar morbid state of the serous membrane of the heart and veins. The state in which I found the internal tunic of these organs cannot be accounted for save by the action of inflammation, the cause of which inflammation would undoubtedly be the presence of the foul or poisonous blood, which blood, by its immediate contiguity with the tissue named, would readily produce what I have described, viz., a general inflammatory state of this tissue, constituting true secondary phlebitis; a state which I suspect is far from uncommon in the horse, although not even so much as a hint of its existence, or of its ever having been observed, can I find mentioned by any veterinary author whatever. In conclusion, then, I have to observe, that when we carefully consider the primary and secondary states of this disease in the cases which I have endeavoured, step by step, to unfold before the mind of the reader, we need not wonder why the pulse in both animals should, day after day, maintain the peculiar character which it did.

Health I regard in a great measure as being dependent upon a due balance of the chemical forces resident within the organism; which balance, if disturbed either in the blood itself or in the solid tissues with which it is in constant and immediate relation, a change is speedily made manifest by a series of morbid phenomena more or less extensive, according to the nature and extent of that original disturbance. Of the nature of such disturbance, in a primary point of view, we at present know nothing; we can judge of it only through its manifest effects; and what the scientific

practitioner has to do, and, in fact, all he can do, is to closely observe its workings, and, if possible, eradicate or controul its destructive tendency.

CASES OF RHEUMATIC LAMENESS, DISLOCATION OF THE PATELLA, AND NASAL GLEET.

By J. H. GLOAG, V.S. 11th Hussars.

Dear Sir,—I BEG to send you the following cases for THE VETERINARIAN.

Believe me to be,
To W. Percivall, Esq. Your's faithfully.

Rheumatic Lameness.

With respect to my former communication, in the November number of THE VETERINARIAN, on a case of this character (E 17, grey mare), I beg to inform you that during the last winter I have had several others of this description, having had a great number of cases of influenza. I can reckon up five distinct cases, all of which occurred while the animals were recovering from influenza. Since, however, I have described the symptoms on a former occasion, I shall now merely detail the cases.

D. 29, brown mare, aged four, while recovering from a severe attack of influenza, was suddenly found to be exceedingly lame and tender in the near fore fetlock. In about a fortnight the lameness partially left the near fore leg, and the opposite one became violently affected. The pain and lameness in this case were very great, the animal constantly lying down and groaning, and, when standing, the knees bent forward to endeavour to take the weight from the back parts of the legs. After fomentations, physic, &c. in the first instance, I then applied cold lotions, and afterwards blistered both joints very severely with good effect. The mare is now recovering.

B. 36, chestnut mare, eleven years old, admitted with influenza, and had a very severe attack. During the period of convalescence the mare was perceived to be suddenly lame in the off hind leg in the hock joint, which was extremely painful to the touch, as also all up the inside of the thigh: the mare was panting and sweating with pain, and lying down constantly. The extreme pain continued about ten days, but the lameness did not subside for more than three weeks.

B. 14, brown mare, aged six, admitted with influenza. This mare during the period of convalescence was found to be suddenly lame of the near fore fetlock, which was acutely tender, and continued so for three weeks. This mare recovered under soothing treatment.

F. 25, brown mare, aged five, admitted with influenza. Whilst recovering from the attack, she was found to be extremely lame and tender of the near fore fetlock, and after a time the lameness as suddenly shifted into the off fore fetlock. This mare recovered under soothing treatment.

Re-admitted March 6th. The near hind fetlock found to be much swelled, and very tender to the touch, as if she had a sprain in the back sinews; and the off fore leg also much swelled, and very tender along the course of the tendons. Now under treatment.

An officer's horse, attacked in a similar manner after influenza with lameness of the near fore fetlock.

These cases are not by any means uncommon after a certain class of diseases.

Dislocation of the Patella.

F. 13, grey mare, aged five; admitted May 5, 1847, at evening stable hour, with dislocation of the patella (outwards) of the off hind-leg. She was discovered to be very stiff and unable to move across the stall, and, when the man endeavoured to make her do so, he found that she could not bend her leg, but that it was lifted, as it were, "all of a piece;" and, on attempting to move her forward, the mare knuckled over on the fetlock. I was not on the spot at the moment, but as those in charge were completely puzzled with the case, the mare was, with the greatest difficulty, and by the assistance of many men, moved into a box, and soon afterwards I saw her. I found an evident dislocation of the patella outwards, the bone projecting on the outside of the joint, with an indentation in the front of the stifle joint. The leg was lifted forward, whilst at the same time I pressed on the outside of the patella very forcibly, and after a few trials it went into its place with a snap, and the mare was quite relieved. In the morning the mare was found to be affected precisely as she had been the previous evening, and was again relieved and went sound. With a view of preventing the dislocation, a shoe was applied which had a toe-piece projecting in front of the shoe about three inches, which made the mare stand with the leg more under the body, as when she got the leg behind her the patella more easily slipped off. She was then blistered strongly on the stifle joint, and this was afterwards repeated; and the mare

then resumed her work, and up to this time she has never had a return of the affection.

Observation.—The affection in this mare can be most clearly traced to an accident. On the 28th of January she received a severe kick on the off hip, which caused a swelling and a collection of serous fluid very deeply situated among the muscles. She was blistered many times and had long rest, and the muscles wasted away; and I should imagine it arose from relaxation of the straight ligaments of the patella, which are a continuation of the tendons of the muscles (the two vasti and the rectus), and which therefore allowed the patella to slip more easily over the external condyle of the femur.

Another Case of Dislocation of the Patella.

B. 28, bay mare, aged four; admitted Dec. 18, 1848, with dislocation of the patella (outwards). This mare was also found at evening stable hour to be affected under precisely similar circumstances to the foregoing. I had much difficulty in reducing the dislocation, on account of the mare being of a highly irritable disposition; and when she found herself so completely restrained, and her leg in such a novel position, her frantic attempts to kick presented a very peculiar appearance, as the whole leg went in one piece, as it were, convulsively backwards and forwards. However, by dint of backing the mare, and at the same time employing all the force we could against the outside of the patella, it went into its place; but the mare, from her long efforts at kicking, had violently strained or ruptured the ligaments of the patella, for after the reduction she was very lame, and went with a peculiar kind of hop, like a horse lame in the hip. She was afterwards kept moving for an hour or two, for there was such a spasmodic action of the muscles, that it was with great difficulty we could prevent a repetition of the dislocation. A shoe with a very long toe-piece was applied, and the mare placed in a loose box. On the following morning a strong blister was applied to the stifle. For some weeks after this, as the mare walked about the box you could hear a sound, and also perceive the patella partly slip off at each step. The blister was repeated, the mare appeared to be going on well, and a common shoe was applied; when on the 5th of February she was again admitted, with dislocation of the patella outwards of the same leg, and has since undergone exactly similar treatment; and is now on hand, and likely to prove a very troublesome case, as the patella may be heard partly slipping off as she walks round the box.

Observation.—This mare, previous to her first mishap, had become very much debilitated by attacks of severe strangles; and, in all the cases I have seen, they have been preceded or accompanied

by diseases of a debilitating nature. I remember a mare in the 10th Hussars which had this affection for three years; but it had become so habitual to her that the man in charge could always relieve her, and at last she generally contrived to relieve herself. She did her regular work, as the patella never slipped off when she was moving, but she was, at last, cast as incurable. When these cases continue for any length of time, they generally prove incurable, the outer condyle of the femur becoming absorbed. I have never seen a case of dislocation of the patella inwards, although this accident does occasionally happen*.

Nasal Gleet.

Jan. 31st, 1847.—A grey mare, aged four, admitted. Discharging from the nostrils, and enlargement of the glands under the jaw; throat sore, &c.

The usual treatment for catarrh adopted, such as putting the animal in a loose place, frequent steaming of the head over scalded hay or bran in a nose-bag, slight alteratives, and stimulating embrocations to the throat.

Feb. 3d.—The discharge seems to come principally from the right nostril, and the gland under the jaw is enlarged at that side; I can also perceive a fetid smell from that nostril: the Schneiderian membrane, however, looks healthy, and the matter is of a white flaky appearance. The mare is kept strictly apart from other horses, and the teeth carefully examined, but nothing found wrong.

28th.—The mare seems perfectly well.

March 15th.—I can find no fetor from the nostril, and the horse looks fresh and well.—Discharged.

June 26th.—She is re-admitted under suspicious appearance of glanders. There is a discharge from the off nostril of a whitish character and offensive smell, and, from what I could ascertain from the man in charge, he had perceived a slight discharge for some time; but, as the mare fed well and looked healthy, it was only considered to be a slight cold, such as young horses are subject to. The mare is kept strictly apart from all other horses; the head to be frequently steamed by means of a nose-bag over scalded bran, and gentle alteratives given. The mouth well examined, particularly the upper back molar teeth, but nothing is found unusual. Blisters are applied to the throat, &c. The appearances from time to time are very changeable: sometimes the discharge is suppressed for a time, and then bursts out afresh. I also attempted, by lower-

* Mr. Gloag will find a case of this rare form of dislocation narrated in the "Hippiatrist," by Mr. Cherry, the Principal Veterinary Surgeon to the Army.—ED. VET.

ing the system by bleeding and physicking, to bring out glanders, if it lay dormant in the system. The mare always looked well in her coat, and the membrane lining the nostril did not look unhealthy. Her feeding was generally sloppy diet, and her exercise sufficient to promote health.

August 6th.—The discharge has become very offensive, and of a greyish colour: the right eye is discharging. There is an evident difficulty of breathing through the off nostril, and I have often found considerable heat over the off frontal sinus, and, when the mare is made to trot, she makes a noise through the off nostril, evidently as from that nostril being plugged up.

7th.—I opened the off frontal sinus with a small gimlet, and then enlarged the opening with a very large one, and found it completely filled with matter: the sinus was freely injected with tepid water until it ran clearly away through the nostril, and a wooden plug was made to fit the hole accurately. Gave \mathfrak{z} ij sulphate of copper and \mathfrak{z} ij gentian daily in a ball.

The cleansing of the sinus with tepid water was repeated night and morning for two days, and on the third day, after a similar cleansing, it was injected with a solution of creasote \mathfrak{z} ss and water \mathfrak{z} ij, and this was continued night and morning for fourteen days, during which time the eye brightened up, the discharge appeared to be lessened in quantity, and the fetor decreased.

24th.—The injection of creasote discontinued, as also the balls. The mare has had regular exercise, and there is an evident obstruction in the right nostril situated high up.

27th.—The discharge has again become very offensive, and, on attempting to inject the sinus with water, I found that I could not force it through; and having attempted it several times, I was obliged to desist. The wound is covered with a pitch plaster, and allowed to heal. Sulphate of copper \mathfrak{z} ij and gentian \mathfrak{z} ij given daily in a ball.

Sept. 12th.—No particular change. Balls discontinued.

Oct. 2d.—The discharge appears less; the Schneiderian membrane looks healthy, but there still remains the peculiar fetor as of diseased bone; and the discharge is not regular, being at times suppressed, and at other times excessive. The animal looks healthy and feeds well. I recommended the mare to be sent to straw yard for the winter, thinking that pure air and a constant dependent position of the head might prove serviceable.

Dec. 24th.—The mare is brought in from straw yard very lame, from an accident to the foot. She is looking very well in condition; the discharge from the right nostril still remains, and is of a fetid character. The membrane lining the nostril looks healthy. The mare roars on exertion, arising evidently from ob-

struction in the off nostril high up, and, by placing the ear over the right nasal cavity, you can readily ascertain that some obstruction exists high up in the nostril.

Jan. 14th.—As I did not wish to run the risk of allowing the mare to mix with other horses, although I was fully satisfied the case was not glanders, but rather some disease of the turbinated bones, I recommended the mare either to be sold to Mr. Packwood, veterinary surgeon of Coventry, for £10, for further experiment, or else that she should be destroyed.

The latter recommendation being more agreeable to the rules of the service, was adopted. Destroyed Jan. 31, 1848.

Post-mortem appearances.—Chest: trachea and lungs perfectly healthy; abdominal viscera healthy. The membrane lining the off frontal sinus of the head was very much thickened, and of a deep red colour, but it contained no matter. The nasal sinuses were also free of matter, but exactly under the right nasal sinus, and at the top of the turbinated bone, was a large tumour filled with inspissated pus. This tumour was contained in its own sac, and, although I carefully examined it before cutting into it, I could not detect any opening into the nasal cavity: it was about the size of a large pullet's egg, and, on taking out the thickened pus (almost like soft cheese), I found an opening which led into the fauces, through which the matter had partially discharged itself. There was no appearance of ulceration of the Schneiderian membrane.

These cases in the army are very troublesome, as we cannot get rid of the animal except by his destruction.

Identity of Glanders in Man and the Horse.

Whilst on the subject of glanders, I beg to name to you, that, when the 11th Hussars were last quartered in Dublin, our surgeon, in conjunction with some of the most eminent medical men in that city, attended a policeman at one of the hospitals who died of glanders. The unfortunate man, it is supposed, took the infection from drinking out of a bucket which had been used by a glandered horse. Three days before this man's death, a horse was purchased and was inoculated with the matter from the man. The horse shewed all the symptoms of acute glanders, of which he died. The man also died. Drawings were taken by an eminent artist of portions of the lungs of the man, and also of those of the horse, which shewed the most perfect similarity in the tubercles. Drawings were also made of the Schneiderian membrane of the man and the horse, shewing the identity of the ulceration. The man was also shewn as he lay dead, with the appearance of the pustules over the body: these pustules appeared to have a very marked

difference to those in other diseases, having a white areola instead of a red.

This case excited great attention at the time, and our surgeon was requested to attend at Chatham with the drawings, which were carefully copied and deposited in the medical museum.

REMARKS ON MR. NICHOLSON'S CASE OF PLEURO-PNEUMONIA*.

By J. Z. N.

To the Editor of "The Veterinarian."

Sir,—WHEN reading your last number of THE VETERINARIAN, my attention was directed to an article on pleuro-pneumonia treated with the actual cautery: the result of such treatment in the case mentioned certainly appears very satisfactory. The disease in question being one of such great importance to all parties that are in any way concerned in treating it, I trust you will excuse my addressing you on the subject. My only motive in doing so being to inquire how much the cauterization assisted the cure in the case alluded to, I will without farther delay state the impression which I had in my own mind of the state of things in this case.

I think all will allow the action of the actual cautery is precisely the same as other counter-irritants. Although we must admit it to be the most potent irritant we can apply, yet is the principle upon which it acts precisely the same, whether inflammation be produced by the hot iron or by any other of the numerous applications made use of for that purpose. But, in the case above alluded to, the milder means had failed to give relief, while the animal had become extremely debilitated, so much so that the pulse could scarcely be felt and the respiration was difficult. Such symptoms may frequently be witnessed during certain stages of this disease, and yet the animal may recover without the further use of counter-irritants; the symptoms depending, in these cases, not so much on the progress the disease has made as on the debility it has caused, and on the treatment necessarily had recourse to by the practitioner to arrest the progress of the disease. In a disease of such a character we can do very little more than endeavour to arrest it; having succeeded in which, our object should be to support nature by tonics, gruel, &c. at the discretion of parties

* The case in question will be found in our last Number, at p. 136.

attending the case. We well know the morbid appearances the lungs of some animals present, even if they be destroyed the moment the disease is detected. Again, knowing the nature of the disease, how the vessels pour out the coagulable portion of the blood into the tissues of the lungs, even from the very first of the animal being attacked, we can hardly suppose a case (after having gone on for some considerable time, as the one recorded in your Journal must have done, without being treated, or, what is the same thing, the treatment not taking any effect) to be rapidly restored by counter-irritation, however energetic; but rather consider this interesting case as one in which the febrifuge medicine, combined with the ordinary irritants, had been silently but still certainly at work in arresting the disease, and the unfavourable symptoms had arisen from the debility attendant on the disease, which debility the tonic medicine had the desired effect in removing. Had the aggravated symptoms arisen solely from organic disease of the lungs, and that a disease of such a nature as the one under consideration, surely no remedy, either externally applied or internally administered, could have a very rapid effect in restoring the animal. At an earlier stage I think the actual cautery might be very successfully resorted to in the treatment of this disease.

I have the honour to be, Sir,

Your most obedient servant.

N.B.—You are at liberty to make such use of this letter as you may think fit, its sole object being to elicit information.

AN INTERESTING CASE OF MELANOSIS, MISJUDGED AND MALTREATED.

By EDW. MAYHEW, *M.R.C.V.S., Spring-street,
Westbourne-terrace, Paddington.*

It is my desire to report to you a case which probably may be instructive, and, as illustrating the old proverb, that “doctors differ,” perhaps in some degree amusing. A gentleman of property living in this neighbourhood has a fine grey horse on which he sets much value. The animal is nearly thorough-bred, and stands at least sixteen hands high. Its action and courage have made it a favourite with its master, who has not found that the qualities for which he prized it have suffered any diminution, although it is now fully aged, and something more, for in colour it begins to whiten.

About three years ago a swelling was observed just before the prominence of the hip, or, to speak more correctly, immediately anterior to the inferior spinous process of the ileum. How the swelling was caused, or by what means produced, no one could tell; but, of course, some blow received during the night was conjectured by the coachman to have induced it. The enlargement was at first attended to by the groom; but, it not disappearing, somewhere about a year ago Messrs. Broad and Woodger were consulted. Mr. Broad, at once, finding it hard and unyielding to the touch, recommended the knife; but to this proposal objection was made, and Mr. Woodger applied a blister over it, and upon the part he subsequently rubbed some iodine ointment. Constitutional measures of the customary kind were at the same time employed, but with no good result. Mr. Woodger had hoped to disperse the tumour, but, instead of decreasing, it enlarged under his treatment. The swelling became unsightly, nor was it improved by the absence of hair upon its centre.

On the 13th of January of the present year I was requested to see the horse, and to give my opinion if any reasonable prospect remained that the blemish could be removed. I found him in excellent health and spirits, looking beautifully, and apparently equal to any work he could ever have performed. There was nothing to indicate that the constitution was feeble, and the horse was in admirable condition. The tumour which now became the immediate object of observation was in size about as large as the crown of a man's hat, and of an irregular round figure. Towards its centre, where it was most prominent, it might be four inches thick from its surface to its base; and at the point here indicated the hair on a spot not larger than the palm of my hand was absent. As the colour of the horse approached to white, and as the hue of the skin was dark, the blemish was the more apparent, and it offended the eye of the animal's owner. On looking attentively, the short projections of the hairs could be detected, and the denuded skin felt perfectly soft, moist, and healthy, between the fingers.

It was supposed that Mr. Woodger's blisters had destroyed the hair; but of course I contradicted that opinion, and stated, that I thought the absence of the natural covering of the skin had been occasioned simply by the rubbing of the cloth, and the tension caused by the enlargement.

My next care was to ascertain, if possible, the precise nature and exact position of the tumour. A third of its substance (and here it was thickest) rested upon the loins, or laid upon the lumbar portion of the longissimus dorsi muscle; the remaining two-thirds descended over the abdominal parietes. This circumstance told

pretty plainly the situation which it occupied ; for, seeing that it passed over two regions, there was all but demonstrative proof that it was external to both. There was, however, another point to be settled. How was it related to the panniculus carnosus? Superiorly it seemed to be near to the surface, but inferiorly it was not to be so accurately felt. It was also somewhat fixed in its situation. I could only slightly move it ; therefore I concluded that it was placed below the muscle last named, the contraction of which served to hold it in its place ; and having to my own satisfaction determined that fact, I turned to discover, if possible, the nature of the tumour.

As I have said, it was at the highest part capable of slight movement, and when under this its edges were well defined, for it then had a well-marked and distinct margin. Below I could find nothing equally satisfactory ; but the difference of situation, the intervention of the panniculus and parts, the abdomen being so much more yielding than the loins, accounted for the circumstance. I therefore argued that, as one part was, the whole in all probability existed, and that the tumour was circumscribed. It felt hard generally ; but at the centre there was some sense of softness, although this conveyed to me no idea of actual fluctuation. The skin was healthy, and, notwithstanding it was in some measure tightened, did not appear to be in any degree thinner than on other parts. There was no sensitiveness in the swelling. The horse did not seem to care how much or in what manner it was examined. I did not try to create pain, for I saw no advantage to be gained through cruelty.

Having endeavoured to ascertain the character of the enlargement without being able to conceive myself that I had acquired the knowledge I desired to gain, I sought some aid from a more general examination. Seeing the age and colour of the horse, my hand was immediately directed to the anus and tail. At the root of the latter I found a little tumour, about as big as an ordinary pea. It was hard and round, perfectly detached from the muscles, and it also was devoid of sensibility.

I then saw the proprietor, to whom I was to give my opinion, and, as he will probably see your pages, that gentleman will be able, if he pleases, to correct the statement I am about to make. I told him I could not positively decide what might be the character of the growth. There was a chance, and but a remote one, that it should be pus or serum, and, if so, the result would be happy ; but that I knew of no instance where fluids had for so long a period been confined, and in their effects been almost stationary. It might be cellular, or it might be fleshy, and, if so, there would be nothing to fear ; but there was also a probability that it would

prove *melanotic*, and, should such turn out to be the case, the prospect would be less hopeful. There was, however, one fact which justified expectation that it was not of the worst character; for I had not known, read, or heard, that this disease had ever attacked the part on which this enlargement was placed. Still, there was no portion of the body which might not be involved, and the tumour at the base of the tail made me fear the horse was affected by the disease to which age and colour predisposed it.

Under all the circumstances, I gave it as my opinion that an operation held out the only prospect of permanent and decided benefit. I professed myself willing to undertake it, and sufficiently sanguine in the result to feel justified in recommending it should be performed. If no operation was to be undertaken, I strenuously advised that no other measures should be adopted, especially as those already employed had acted directly contrary to the intention which induced them to be resorted to. I promised no certain cure. I took no pains to render him who honoured me by consulting my judgment confident in the issue of that which I proposed: on the contrary, I was careful to make the gentleman aware that attending operations there were accidents for which surgery could not be held responsible; and I endeavoured to render him alive to all the dangers which make our profession one of particular anxiety. Yet, in conclusion, I declared that, if there were some risk in the removal of the tumour, there was, in my opinion, danger, actual and positive, in allowing it to remain.

I quitted the gentleman's company with his acknowledgments, and an assurance that, so soon as he could procure another horse to fill the place of the one affected, he would let me know, and the operation, without loss of time, should be performed.

After this I heard no more of the affair for some time; but the gentleman mentioning his resolution to some acquaintance, it seems each gave to him their advice, and, of course, no one countenanced the determination he had formed. On horse matters, every individual that ever crossed the animal is, in his conceit, a sage; and however much the veterinarian may be puzzled, these persons never are at fault. They spoke with all the confidence I dared not assume, and the proprietor at last was glad when one, more considerate than the rest, proposed the horse should be submitted to Mr. Mavor for his opinion.

To Bond-street, therefore, the animal was sent. Mr. Mavor, jun. saw the horse, and he pronounced the removal by the knife an impossibility, but advised the application of iodine ointment to the surface of the enlargement. The proprietor was, no doubt, surprised by the recommendation so decidedly opposed to the resolution he had perhaps wished to have confirmed. He did not at once reject

my counsel; but to test its soundness further, and to seek what most persons are pleased to think the highest advice, ordered the horse to be taken to the Royal Veterinary College at Camdentown, so that Professors might sit umpires over a professional dispute. To Saint Pancras, consequently, the horse was ridden, and there examined. The opinion given pronounced the removal by the knife not to be warranted unless the horse was given up for experiment, but recommended that a seton should be passed through the swelling.

After this, all idea of operation was, of course, relinquished, and Mr. Woodger was called upon to do as the College authorities had directed. The skin was snipped, and the needle thrust in; but during its passage no sign of pain was shewn. The tape was then drawn through, and it came forth black. The truth was now apparent, for the evidence was seen which gave proof that the tumour was a melanotic growth. Three days after this, chancing to meet Mr. Broad, accident caused us to talk about the case, and then I learnt what had been done. Before I was informed that the tumour was malignant I protested against the cruelty of the proceeding, from which no possible benefit could result, and, when I was acquainted with the fact, I unhesitatingly pronounced the horse was murdered. By the politeness of my friend, who saw the interest I felt in this animal, I was taken to see it, and sad indeed was the change which I beheld. The tumour was at least three pounds larger than when, about a month before, it had been submitted to my notice. The part was not now devoid of feeling. The poor horse was shy, even when it was looked at, and flinched when it was touched, however gently. Seeing this, I said the period for operation had gone by; I would not then use the knife, had I the freest permission to do so; but were the horse my property, I would send for the knacker to end its misery.

A few days ago, on Wednesday, the 28th of February, I saw Mr. Woodger, and from that gentleman I ascertained, the seton, having for a week continued in, was then withdrawn, and nothing particular had since been attempted. I also learned that the tumour shewed a disposition to burst; and when it does so, may I ask what medicine will repair the wound?

Such is the history of the case; and as it calls in question my opinion, may I venture to intrude upon your space so far as may be necessary for its justification? Here one party declares removal by operation an impossibility, and another says it may be attempted only as an experiment. Now, these two judgments are, so far as they relate or have any bearing on the decision I had given, the self-same thing. With experiments, as they are called, I have long since declared I will have nothing to do. To the extent a

man can bind himself I am pledged to this; and therefore, to say a tumour could only be excised as an experiment, was verbally to pronounce its removal by surgical operation and under ordinary motives an impossibility. It therefore remains to inquire, what there was to prevent or to oppose the use of the knife as a means of shortening or alleviating agony? It was with the design of benefiting the animal, and literally doing to it what I myself, under similar circumstances, would be done to, that the operation was by me proposed; and it remains to shew that it was neither so dangerous as to make the result unusually doubtful, or so severe as to render it extraordinarily cruel.

First, as to the size. On man many tumours of much greater proportional dimensions are taken away by the surgeon, and the system of the human being does not so well endure or so speedily repair invasions as does that of the horse. I have seen tumours of greater weight, and surfaces of larger extent, interfered with, and nevertheless the life survive; and there is not one of those who in this case talked of impossibility, but must be able to cite instances corroborative of my assertion. The size was little, when compared with the huge frame of the animal on which the operation was to be performed, and of it I will say no more, since I have yet to learn that any of the gentlemen who saw the limits of possibility, meant that by the crown of a man's hat ability was circumscribed.

The size, therefore, not being important, I am unwilling to credit that, either within the College walls or out of them, any regularly educated practitioner conceived that the situation of the growth presented any obstacle to its removal. I saw the tumour more than once, and I have often thought of it; but in sincerity I declare, that, had I choice of place, I do not know on what part of the body the structure could be fixed so very favourably for the operator. There was not a nerve or artery to fear—not even a vessel to avoid or ligature; and hence the knife could with security be employed with speed. One-third of the tumour rested on the loins; two-thirds reposed on the muscles of the abdomen. Over the longissimus dorsi there is stretched a thick dense covering, the fascia lumborum; and as such structures are slow to be involved, and devoid of sensibility, from this we may suppose the tumour would have been raised almost as from a table. Over the abdominal parietes is extended the elastic covering of the external oblique, which sheaths and encloses all the internal parts. Upon this, more lowly organized than the fascia of the back, the larger portion of the tumour laid, and from it the growth might with the finger have been peeled off. The quantity of cellular tissue that lies beneath the panniculus makes the mind certain that the parts below would not quickly be implicated or

involved while the skin continued sound, and gives the strongest assurance that any operation would be comparatively slight. A child might have removed this tumour, if he had only dared to cut; at all events, it is not too much to say, a butcher with half an hour's teaching could have performed the impossibility of its extirpation.

The Professors, and Mr. Mavor, jun., when giving their judgments, regarded the enlargement as a simple tumour; that it might prove melanotic did not enter into their ideas of possibility. It had formed one of the contingencies which I was prepared to meet; and because so highly organized a structure as the skin was perfect, I felt assured of the condition of the less vital membranes, that were like a cloth spread out underneath. Had the growth been upon muscles, between and among which it could possibly have dipped, I should not have talked so confidently of operation; but where it was, it seemed to invite the knife, and I have to learn what it was which made the removal an impossibility.

One of the means proposed to obviate the necessity of an operation was the use of iodine. The agent may be powerful over glands; but even then it is not always attended with success. Over abnormal deposits, I have yet to learn that it possesses any advantage beyond what the common blister can bestow; to which, being itself an irritant, iodine closely in such cases approximates. The history given with this case told that a vesicant had caused it to enlarge; and more minute inquiry would have ascertained that iodine already had been tried, even if reason did not suggest, to one who talked of possibilities, the probability that so customary a practice had been employed. Had the advice given been followed, further injury only would have been done; for the sea does not contain the iodine sufficient to have decreased the swelling to which it was ordered to be applied.

The seton, however, was the worst possible measure that could have been proposed. Compared to the knife, even supposing there had been no constitutional disease, but a tumour of a firm or solid character to treat, it was such a resort as ignorance alone can justify. I can conceive no condition under which a seton could have been warranted. Supposing there had been a sac containing pus, the length of time it had been confined, and the hardened nature of the swelling, left no room to conjecture it was not inspissated; but whether it was or not, if there was imagined to be fluid of any kind, why, having such a notion, was it not evacuated, and the sac destroyed? Such would have been the work of a few minutes, during which the horse need not have been cast; and in a month, at most, the wound would have healed

and closed, leaving no perceptible mark behind. To let the pus drain out, drop by drop, as the seton guided it, was to prolong the torture, and gain no other end. To leave the seton in till it had caused such inflammation as would obliterate the sac, was to allow suffering to continue; while the course of the discharge removed the hair, and when the tape was withdrawn two unsightly scars remained to tell of the pain that had been inflicted, for the space probably of months.

Those, however, who proposed the seton, did so in perfect ignorance of the nature of the tumour; and had it been of any character other than it proved, of what use could the seton be? Where was the good it was to produce, or how was it expected to act? To me, I confess, the proposal would be ridiculous, were it not associated with animal suffering which renders it disgusting. I too well remember the pain and filth which these things have occasioned to laugh at any thoughts connected with such practices; but for the people who scrupled not to employ them, when ignorant of the substance on which they meant to operate, I unhesitatingly record my unmitigated contempt.

That the tumour turned out to be melanotic the College authorities may view as unfortunate, though it was a stroke of luck which ordinary prudence might have anticipated; yet, if we consent to regard the circumstance as the effect of accident—the result of the merest chance—I still insist there is no possible condition to which the tumour was liable in which the seton could have been beneficial. Therefore, pardoning the Professors for not having imagined the real nature of the growth, and judging of what they have done by the state of their own knowledge and the limits of their own ideas, I accuse them of employing a means not answering to the end they proposed, and broadly assert that had they been right in what they thought, they would still be wrong in that which they have done.

Putting the possibility of melanosis out of the question, there was, however, a circumstance the surgeon ought not to have despised when consulted upon the case. A blister had caused it to increase. A blister is but a mild irritant applied to a comparatively distant part; but if such had been the consequence of its application, what result could any sane person have expected from so violent a measure as a foreign body thrust through the centre and allowed to continue in the middle of a substance which already had shewed its nature to be resentful of one of the mildest forms of interference?

When the seton was inserted, and melanosis was discovered, then, immediately and without the loss of a single hour, operation should have been performed. After this—possible or impossible,

for relief or for experiment—there was no other plan to be adopted ; for the life then was jeopardized, and humanity dictated the immediate employment of the knife. To interfere with a cancerous growth is to poke a smouldering fire and cause it to flame. This is so well established, that I shall take no pains to prove it, but allow those who may be interested to do so to contradict the assertion, which I am prepared to maintain. The seton, however, for a week continued in, and when it was withdrawn no active measures were adopted to repair or check the consequence which had been provoked. This last neglect I refuse to comment upon, and here satisfy myself by the simple exposure of the strange and cruel apathy which I confess myself unable to account for or to excuse.

It is only fair I should state the single argument I have heard advanced in defence of the proceeding on which the comments have been chiefly made. That the seton was wrong, the withdrawal of it is the best acknowledgment ; but no verbal admission had been made of the error which the fact confesses. On the contrary, the measure is in some degree attempted to be justified. Melanosis, it is said, is a constitutional disease. The body, therefore, it is assumed, must be generally affected. The liver, the spleen, and other important organs are pointed out as already probably attacked ; and consequently if the growth had been removed by operation, it is asserted, the cause would still have existed, and in the end would have produced death.

This is consolatory. It reconciles the mind to a mistake, and soothes the indignation which surgical errors properly provoke. It does not settle the question whether the College authorities were justified in their recommendation ; but it gets rid of the point by implying that no serious injury has been done.

The purpose is obviously to induce the proprietor to care nothing about an ugly accident, and to teach him that his property or interest in the life of his dumb servant has not been materially tampered with through a want of care or absence of knowledge on the part of those who were consulted for its relief. Let us, then, try to discover how far it answers such intention when it is temperately investigated.

That melanosis is a constitutional disorder, I trust every professional man is aware. I have nothing with regard to so established a fact to admit or to deny. That because the disease is constitutional, internal organs, therefore, must be involved, or, being involved, must induce speedy death, is however something more than I can grant upon the mere assertion of interested individuals. When a case has assumed an aggravated form, or gone to that length which renders a horse useless, the abdominal

viscera may, in the great majority of instances, be found after death largely implicated; but here an isolated animal has to be considered, and it can be judged of only by the symptoms which it exhibited. When I was requested to examine it, I was particular in my inquiries, and I was informed the appetite was good and the spirits excellent. The condition was admirable—the coat silky—the breathing tranquil—the eye bright—the membranes healthy—and, in short, all looked well. The dung was natural, and there was nothing to be remarked in the manner of staling; neither was any thing to be noticed in the character of the urine. An observant groom could tell me of nothing wrong in the horse, which was the favourite of his stable, and a considerate master was grieved only because the animal he most valued was disfigured. In all this I can find no evidence that the organs necessary to vital functions were disordered. When health, spirits, and digestion were preserved, we may perhaps conclude the parts necessary to their continuance were perfect. That these structures may now be implicated is not unlikely; but be it remembered, I am here referring to a period prior to the time when melanosis was stirred up with a seton. At the College, when there the horse was first introduced, no one discovered the disease in that which afterwards is ascertained to be a living mass of malignant cancer. If spleen, liver, &c. were then affected; why was not the real character of a disorder so prevalent throughout the animal system pointed out? There was a tumour in one place only, covered by the skin, and those who could not declare its character are not best qualified to speak with confidence of the condition of more deeply seated and more hidden parts. I saw no proof that the digestive organs were even disturbed; and there is, that I know of, no evidence that they were at that time deranged. It is, however, common to persons who are unable to calculate probabilities to arrogate a capability to estimate possibilities. We are told, the horse would die: a power of prophecy is assumed by those who shewed themselves unequal to reasonable conjecture, even when there were before them circumstances calculated to convey the hint.

Now, that the removal of the scirrhus would not have eradicated the tendency to the disease, I to the fullest extent admit, if on such a point any acknowledgment can be of importance. That fact is established; but it makes no way in the matter under debate. Since the disease had shewn a marked disposition to exhibit itself upon the surface of the body, there was, in addition to the hope afforded by the state of the general health, strong grounds, very strong grounds, to infer that the internal structures were not implicated. This it was fair to assume was the case; and until some-

thing better than interested assertion is advanced to the contrary, I must be pardoned if I conclude such to have been the fact. Then, it is even possible the disease might have been almost localized: no doubt it existed in other parts, but as its intensity seemed to have been concentrated on one particular spot, there is a good basis to anticipate it had not virulently developed itself elsewhere. Now, supposing the larger growth had been extirpated—granting the extirpation not to be an impossibility—as the one removed had been three years attaining the size it exhibited when I first beheld it, who, in the simplicity of my heart I ask, has such an insight into futurity, that he could say other tumours would not be equally tardy in advancing to a similar bulk? Three years of health and active life is a long period in equine biography, and would amply recompense the pain of any operation, or the short period needed to close the wound the knife had left behind. If, however, the character of the tumour being ascertained, after-measures were judiciously resorted to, the constitutional tendency might possibly have been checked, and before the surgeon was again required to employ the knife, one of the many accidents that horse-flesh is heir to might have placed the animal beyond the need of human help.

Such, Sir, is the history of a singular case, which I have endeavoured to state fairly. If any of the parties whose names are mentioned find their opinions to be misrepresented, or their views discoloured in my report, I feel assured your pages will be open to their contradiction; and it is my confidence in your generosity that renders me the more open in my assertions. That I may be understood, I conclude with an unreserved declaration of my entire dissent from all Mr. Mavor or the gentlemen at the College presumed to recommend for the treatment of the case, and without hesitation pronounce both what was proposed and what was done wrong on every principle of surgery, and repulsive to every notion of humanity.

I have the honour to be, Sir,

Your obedient servant,

EDWARD MAYHEW.

16, Spring-street, Westbourne-terrace.

March 10, 1849.

WOUND IN THE SEAT OF CAPPED HOCK.

By W. A. CARTWRIGHT, M.R.C.V.S. Whitchurch, Salop.

ON the 8th June, 1843, an aged half-bed grey mare was sent to me from a distance of four miles, she having received a severe injury to her hock a few days before from some unknown cause.

There was a clean cut wound (as if wilfully done with some sharp instrument) through the skin or cap of the hock down to the tendo perforatus, which appeared not injured. It was situate a little on the inside, and commenced about an inch below the upper end of the os calcis, and extended downwards for four or five inches. The wound seemed healthy; indeed, granulations were springing up. I could introduce my finger inside, the wound being at least an inch in width. I had a high-heeled shoe put on, ordered the parts to be well fomented, sent a liniment to dress it, and gave an aperient. She walked home again the same day, but was very lame.

11th.—Going on well. Put a plaster over it of white of an egg and flour, so as to encourage granulations, and keep it from the air.

15th.—Wound looks well, and is growing up fast, there being an opening down to the tendon of not above three-quarters of an inch in extent, which discharges healthy pus. Touch the granulations with cup. sulph., and leave it exposed to the air.

19th.—I was rather surprised this morning to find the mare worse. She is stiff, and afraid to move the limb: both limbs are a little œdematous, and there is also a pouch of œdema hanging near the udder. The hock is but little swelled and inflamed. I was informed that for the last day or two there had been discharging from the wound a good deal of “watery slimy stuff.” Passed a probe up it, and found it deeper than I expected, and while doing this some portions of coagulated synovia escaped. She was thinner, and did not look so well as usual, although she fed well. Took a gallon of blood from her, which was dark coloured. Blistered all around the hock, so as to close the wound, and applied some of the hyd. bichlorid. to the mouth of it, to coagulate the synovia; and also gave an aperient, and ordered perfect rest. I fear the side of the bursa, or synovial sheath, at the upper end of the os calcis, formed by the expansion of the tendon of the gastrocnemius internus muscle is now opened into.

21st.—I now ascertained that the probable cause of the mare being so much worse arose from her being allowed to be covered by a stallion, and which may have irritated, and probably burst open, the bursa or sheath. The blister has taken good effect, but there is still a great discharge of synovia. I applied the cautery, and sent some solut. of hyd. bichlor. to be applied to the discharge.

23d.—In consequence of the swelling being rather great about the wound and hock, a meddling farrier who had called at the house ordered fomentations to the hock, and, of course, the wound had continued to discharge pretty freely of synovia. Constitutional symptoms are by no means worse, but she is still lifting her

leg up and down, and shifting about as if in pain, and synovia is still escaping. I merely applied again the cautery, and ordered the solut. of hyd. bichlor. to be persevered in as before, and, of course, discontinued the fomentations. The wound all around is growing up fast, leaving only the one where the synovia escapes, but which is of a good depth, and rather hollow underneath.

24th.—Better. Not moving about so much, and does not feel so hollow underneath. Wound less. Synovia is still discharged. Applied cautery gently; the solution to be continued when necessary. Foment *above* the hock, but not about the wound.

27th.—There is a large mass of coagulated synovia hanging from the wound. Does not move her leg forward much, and the swelling is little more than natural. Touch it with the cautery, and put some of the powdered hyd. bichlor. on some tow on the place, and apply a plaster of egg and flour over it.

In the course of a week the synovia ceased, and the wound closed up: in a month or so she went to work, being very little lame, and ultimately got upright.

OPENED CAPPED HOCK.

By the same.

22d, May, 1843.—ABOUT nine or ten days ago Mr. Jos. Hassall, of this town, had his hack mare blistered on each hind leg, for "capped hock," with James's Blistering Ointment. It was a severe application.

She is at this time very lame, and the caps are very large (the off one as large as one's fist), and there is a great deal of inflammation and swelling about the hocks generally. Bleed, foment, and physic.

29th.—The off cap has burst in two places; the near one is much better: one place is in the centre, at the upper part; the other is half way down on the inside.

The discharge is sanious and slimy. The orifice of each is filled with froth from the movement of the leg. Ordered a high-heeled shoe, fomentations, and an occasional dressing of tr. myrrh. comp.

June 1st.—Swelling less, discharge diminishing, sac smaller, and I fancy its sides are uniting. The discharge is not good thick pus, but more of a mucous nature. She is never now in much pain, nor does the irritation at all affect the constitution. Merely dress it with tr. myrrh, and keep quiet, and leave the rest to nature.

12th.—Going on well. The wounds are nearly closed, and I

think the cavity inside has almost grown up, and united to its sides. The tumour is in a great measure on the outside of the hock, as when she moves about, it slips to that side. Apply occasionally some of the ung. hyd. bichlorid.

13th.—This morning I found the hock swelled a little, and the part where the ointment had been rubbed on was covered with blisters. To be left alone for the present.

16th.—Rubbed a little more of the ointment on, since the effect of the last has subsided. Tumour less. Took the bar off the shoe, and had the heels merely thickened.

27th.—Tumour a good deal less, and the wounds healed up; and she has been out at grass for ten days. By the occasional use of the ung. hyd. bichlor. during the following month, the tumours became nearly reduced, and in the course of time natural.

I recollect that, some years ago, a valuable hunter, the property of D. Poole, Esq., of Marbury Hall, received a severe cut on the point of the hock, clean down to the tendon, which got well in the course of three weeks, without any untoward symptom.

LARGE SYNOVIAL SHEATH IN A COW'S THIGH OPENED.

By the same.

MR. TOWLER, butcher of this town, purchased a cow that had been condemned by one of the inspectors of the Mutual Cattle Insurance Company, in consequence of her having a large tumour on the front of the thigh, brought on, it was said, by her galloping about in June, 1847. On the 15th of March, 1848, I was requested to see her, and operate on her.

Examination.—The tumour is as large as a man's head, and is situated at the front and sides of the upper part of the near tibia, and no doubt is a bursa or synovial sheath. The owner was determined to have it opened, and so to kill or cure, as she cost but ten shillings.

I accordingly had her cast, and with a penknife I made incisions at the upper and lower part of the tumour into the sac. At first a quantity of liquid synovia issued out of the wounds, and by using greater pressure several quarts of coagulated synovia were squeezed out. I introduced my finger into the wound, and I could distinctly feel some tendons and masses of synovia: the latter I broke

down and forced out. Having emptied the sac, I passed a seton through the tumour, and dressed it. To be well fomented.

March 22d.—Going on well — discharges healthy matter — evinces no pain of any importance.

29th.—Tumour has greatly subsided, but it still has a boggy feel. It has been dressed only with ung. æruginis. In no apparent pain.

In the course of six weeks she got considerably better, and there remained but little tumour or discharge; and she gave several quarts of milk at a meal. She soon afterwards got well, and was sold for a good sum.

TYPHUS FEVER IN HORSES.

By WILLIAM ERNES, M.R.C.V.S., Dockhead.

A DISEASE from time to time occurs in my practice, particularly amongst the heavy draught horses, which I have at times considered as inflammation of the stomach and intestines, at others as gastro-enteritis, though neither of these two denominations appear to me to be the correct one, since it partakes more of the character of typhus fever, such as it presents itself in the human subject.

THE SYMPTOMS are as follow:—Loss of appetite; in some cases total, in others only partial, so that the owners not unfrequently work the patient on for a day or two after the attack. The mucous membrane of the nose is rather paler than usual, and has a yellow tinge: the tongue is coated with a dirty yellow crust. The mouth is dry; its mucus is of a palish yellow, and emits a peculiar odour. The mucous membranes of the eyes are more deeply tinged with yellow than the rest of the visible mucous membranes. The pulse at first is normal in point of frequency, but small and wiry, or, if altered, is a few beats lower than normal: only, thirty-six to forty-eight hours before death it increases from 90 to 100. The beating of the heart distinct, and isochronal with the artery; the respiration, but slightly increased at first, becomes more so as the disease progresses. Colicky pains are not unfrequent, particularly after the animal has taken either food or water. The dung is at first hard, slimy, yellow coated, and small in quantity; but if the disease be protracted beyond the seventh or eighth day, purging not unfrequently sets in. The urine dark-coloured, small in quantity, and often voided within the sheath. The patient yawns frequently, turns up his upper lips, and at times

grinds his teeth. The ears and legs are alternately cold and hot. The hair of the mane and tail come out from the least traction. The duration of the disease is from ten to twenty days, very seldom beyond. Towards the latter part, the pulse increases to 100, the respiration from 20 to 30 per minute: the mucous membranes become more tinged with yellow, and that of the nose is covered with dark red spots (*petechiæ*), which are sometimes also observed on the conjunctiva. The tongue is more coated, and sometimes looks as though it were shrivelled up. The legs and ears at length become icy cold, and death, in most cases, speedily follows.

AUTOPSIA.—The peritoneum healthy. The liver congested, sometimes softened. The mesenteric glands healthy. The mucous lining of the stomach, with the exception of the cardiac portion which I have always found healthy, is very red, flaccid, and much thickened, coated with a greyish slime, and easily separated from the muscular coat, which seemed to be much softened; the mucous coat of the small intestines is more or less reddened and tumefied. The glands are strongly injected and swollen. The mucous coat is easily stripped off, as in the stomach.

If we follow the bilious duct, we find its mucous membrane in a similar state, even where there is but little affection of the liver. The mucous membrane of the large intestines is also similarly affected, though not to the same extent as that of the stomach and small intestines. The mucous lining of the rectum exhibited similar appearances to those presented by the small intestines and stomach. The contents of the stomach and large intestines (the small intestines being generally empty) consist partly of indigested food, chiefly of a large quantity of dirty yellow greenish fluid, acid to the taste, and of an offensive smell. Even in cases where the horse drank but very sparingly, the quantity of this fluid was undiminished. The mucous lining of the pelvis of the kidneys was found at times also more or less affected, and, in some cases, that of the bladder as well.

The thoracic cavity shewed less alteration, though not altogether free from the general diseased state. The lungs, when no chronic disorganization exists, appear more or less congested. The heart seems, when laid open, redder in appearance, and its muscular fibres softer. This is also the case with the whole of the muscles of the body, and in many places infiltration of yellow serum into the cellular tissue is very apparent.

TREATMENT.—From the foregoing observations it is obvious that the antiphlogistic is out of the question. Where, from experiment or expediency, bleeding has been resorted to, the blood has been found of a dark colour and slow in coagulating. Setons or rowels slough out. The smallest quantities of aloes bring on

216 CASE OF POLYPUS ARISING FROM A DECAYED TOOTH.

violent purging. Small doses of calomel, guarded with opium, I have found ineffectual, and, in some cases, it seemed to increase the abdominal pains. The result of quinine has not been satisfactory. How far the mineral acids, the sulphate of copper or iron, or even the nitrate of silver, might be available, I am not able to say, not having tested them sufficiently. The latter (the salts) seem to be indicated where diarrhœa has supervened. The mineral acids are recommended by the French. The salts are used in Germany in similar cases.

CAUSES.—Of the cause of this affection I can say but little. It is more common in wet than dry seasons. This may arise from the double effects of the debilitating action of a cold damp atmosphere, in the winter season, on the animal frame; as well as the bad provender got in during a wet summer. The disease prevails more amongst old horses, particularly if hard worked and badly fed. I would further remark, that, during the prevalence of influenza, the latter frequently assumed the type of typhus, after the inflammatory symptoms had subsided; and in this form, in the majority of cases, terminated fatally.

A SINGULAR CASE OF A POLYPUS ARISING FROM A DECAYED TOOTH.

By SAMUEL BAKER, *M.R.C.V.S., Chelmsford.*

To the Editor of "The Veterinarian."

Sir,—I WAS called in by a neighbouring farmer, a few weeks since, to examine a two-year-old cart-colt, which had to all appearance a polypus as large as a cricket-ball growing out of the right nostril, which prevented the circulation of air. In order to ascertain its nature I ordered the colt to be cast, and upon examination found that the cavity of the nostril was filled up with a hard fleshy substance, which distended also the other nostril. After making an incision through the ala and side of the nostril, I dissected out a portion of the tumour above a pound in weight; but as still no air passed through, and there seemed not the slightest chance of ever gaining a passage, I ordered the colt to be killed; and, in dissecting the head, found that the cause proceeded from a decayed tooth, at whose root was a bag of matter about the size of a walnut, which by no possible means could relieve itself.

I remain,

Your's obediently.

OBSERVATIONS ON THOROUGH-PIN.

By J. H. B. HALLEN, V.S., M.V.C., Edinburgh.

To the Editor of "The Veterinarian."

Sir,—IN THE VETERINARIAN issued for the present month, there is an article on Thorough-pin, in which the author makes statements with regard to the pathology of the disease, and anatomy of the parts involved in it, so utterly at variance with what actual dissection and practical experience have taught me regarding it, that I beg to trouble you with the following remarks:—

If it be deemed presumptuous in such a comparatively young member of the profession as myself to differ so widely, as I feel bound to do, from a professed author, such as Mr. Percivall, I hold myself excused from apology in consequence of the importance which attaches to the subject in question.

Without any further prefatory observations, I will enter upon the subject I am about to consider, and will direct attention to Mr. Percivall's description of the pathology of thorough-pin. He states, "The pathology of thorough-pin is analogous to that of bog-spavin. It consists in anormal accumulation of synovia in the joint of the hock, and consequent dilatation and bulging of the capsular ligament." From this statement, we may infer that thorough-pin is always the effect of bog-spavin; for in another sentence is found—"But thorough-pin is rarely or never seen without bog-spavin, although bog-spavin, in the majority of instances, is unattended by thorough-pin." It is here that my ideas are so directly opposed to those of Mr. Percivall's; and it now remains for me to state my opinions. In the first place, I believe that bog-spavin is, in the majority of cases, attended more or less by thorough-pin: on the other hand, I am also convinced that thorough-pin often exists without any bog-spavin. And I will, by permission, make use of Mr. Percivall's own words, and state that "the pathology of thorough-pin will explain this seeming paradox." It is, no doubt, perfectly true that any cause leading to the production of an increased secretion of synovia in the true hock-joint, and that cause existing for any length of time, increased secretion will constitute sooner or later bog-spavin. This over-distention of the capsular ligament will manifest itself in those situations which from their structure permit of it; hence we find it appearing at the anterior and inner side of the hock at first, and, if the cause continues in operation for any length of time, it will also present itself at the upper and posterior part of the tarsus. The anterior and

inner parietes of the hock-joint are defended only by the capsular ligament and integument; and from this fact, if a superabundant or unnatural increase of synovia is poured out, this part admits to a certain extent of the distention of the sac, the lateral and upper walls of the joint being unyielding to the pressure.

On dissecting the hock another part of the joint is also found to be enclosed only by its capsular ligament and skin, and this is at its posterior boundary, where the inferior extremity of the tibia is connected with the trochleated surface of the astragalus. In this situation we find the capsular ligament not lying on bone, but loose, yet not so loose as at the anterior part of the joint: nor does it bag so much as Mr. Percivall seems desirous for us to suppose; for if it did, the loose portion would become pinched between the lower end of the tibia and upper surface of the astragalus, at that time when the joint is in a state of extension, and the healthy condition of the parts would not last long: in other words, the loose portion would become constricted and bruised, as it does in cases of relaxation from disease. In this case it is found that thorough-pin is the effect of bog-spavin; or, perhaps, we ought more correctly to state, that the latter disease presents itself in the site of the former one. It is in such a case that, "felt on either side, it has all the sensible characters of windgall; and the fluid it contains is readily made, by pressure or pulsation with the fingers, to fluctuate from one tumour to the other, shewing that free communication exists between them."

Yet, as I have already stated, thorough-pin may exist independently of bog-spavin; and how is this "seeming paradox" to be explained? Any person who has ever dissected, or who has the most vague idea of the anatomy of, the tarsus, must be aware that the flexor pedis, as it proceeds from its origin to its insertion, passes over a protuberance at the inferior extremity of the tibia, at its posterior and towards its inner aspect; also immediately afterwards it runs within a groove over the inner side of the calcis. In this spot is found a tendon passing at an angle over bones, and, wherever this takes place, it is well known that a bursa is generally present; at the same time experience has proved that, in such situations, disease is very liable to occur. Such is the case with the tendon in this particular part; and from the great extent of osseous tissue it has to play over, we find it is supplied with a bursa of very large dimensions, it being from five to six inches in length in an ordinary-sized horse. Nature is not content with granting to the tendon in this part this structure to facilitate its action—also acting in some measure as a preventive to disease—but, in order to render less the probability of friction arising between the bones and the tendon, a pad of cartilage is found

invariably present, which commences a little above the protuberance of the tibia, investing the latter, and passes down over a portion of the capsular ligament of the hock-joint, which lies directly in front of and a little below it; and the cartilage is discontinued when it has partly lined the groove on the inner side of the calcis. The bursa of the tendon is reflected over the surface of the cartilage, which lies in connexion with the tendinous rope. This bursa is a bursa of itself, and not at all connected with the true hock-joint.

Notwithstanding all these admirable adaptations for the prevention of disease in this locality, yet practical experience has clearly proved that these beautifully arranged structures are unable to compete with the stress entailed upon them in the domesticated horse from undue exertion. An increased secretion of synovia is often effused in this bursa, either from injury inflicted on the bursal membrane, or from the tendon itself becoming strained; and in proportion to the extent of the injury, so do we find the amount of distention of the bursa, both as regards size and extent. Hence is produced that anormal condition, known, I feel convinced, by the profession generally, under the name of thorough-pin. But this diseased state Mr. Percivall seems not to have the slightest knowledge of, inasmuch that he never hints in the least about it. In some cases, when thorough-pin arises from this cause, the tumour is circumscribed; though in the generality of cases it is more lengthened in form, taking its course in the direction of the tendon.

It will be now perceived, that I believe thorough-pin exists under two different diseased states, two different structures being involved; the one from disease of the hock-joint, the other from unnatural distention of the bursa of the flexor pedis; both these synovial sacs being distinct cavities, in a healthy condition of the parts: nor did I ever see or hear of there being any communication between them in the worst cases of disease, though such a thing is possible, but not at all probable.

Allowing, then, that thorough-pin may be dependent on two different causes, a question now arises, Is it possible to detect on which of these two causes an existing thorough-pin depends? I answer, Yes: a correct diagnosis may be adduced, by remembering the anatomy of the parts implicated.

If thorough-pin is caused by distention of the capsular ligament of the hock joint, bog-spavin is invariably a concomitant symptom. On the other hand, in the case of thorough-pin arising from an unnatural distention of the bursa of the flexor pedis, it does not necessarily follow that bog-spavin must simultaneously exist. But there is no doubt that the same peculiar kind of hocks

are predisposed to those diseases. Mr. Percivall has correctly stated, that "straight hocks are more liable to bog-spavin and thorough-pin than those of an opposite formation." But why are upright hocks predisposed to the above diseased collections? I conceive that the "straight hock," from its want of angularity, prevents, to a certain degree, the joint possessing the same amount of elasticity which is present in well-formed tarsi; hence, concussion is apt to occur in the hock joint, and a consequence of the bad effects produced by that concussion is bog-spavin. Again, in the upright hock, the tendon of the flexor pedis has to perform its functions under a disadvantage, attributable to a want of leverage, which the tendon has afforded it in the angular tarsus; and from this circumstance there is a liability to disease in that tendon.

When the bursa of the flexor pedis is over-distended, the tumour is chiefly, at all events primarily, evidenced on the inner side; and the tumefaction may be traced easily for some distance along the course of the tendon. In some cases it may appear as much on the outer as on the internal side of the hock, from the fact of the distended bursa gaining room there also to lodge itself. Providing there is no disease of the hock joint, there will be no bog-spavin; and how does this fact arise? Because the pad of cartilage (already referred to) in that situation will not yield or give to the pressure, and consequently has not to impart it to the capsular ligament of the hock joint, with which it is so intimately connected: and, supposing this pad to be absent, it is very unlikely that bog-spavin would be produced from pressure by the gorged theca; for the adaptation of the bones forming the hock joint immediately in front of the bursa would not admit of it.

Again, in thorough-pin, arising from diseased tarsal joint (as I above stated) bog-spavin is certain to be also there; and the tumour at the posterior of the hock is more circular in form than in the other case: it is most evident on the outside, from its having less resistance there; the swelling on the inner side is of a more definite character. But it may be asked, how can the tumour present itself on the inside, when the pad of cartilage must be there? In this instance the cartilage allows of this, in a manner precisely analogous to that in which a valve permits water to run in one direction, but obstructs the passage of the fluid if it attempts to flow in an opposite course. I stated that the cartilage was laid on the external part of the bones; hence, if pressure comes from without (as in disease of the flexor pedis), the cartilage does not bulge; on the contrary, if pressure is imparted to it from within (as in bog-spavin), it is able to recede, at all events so to alter its position, that thorough-pin is produced.

It may be as well to remark at this part of the subject, that in

thorough-pin, the effect of bog-spavin, its presence in some cases not only depends upon the bulging of the capsular ligament of the hock-joint, but is also due to the latter, causing the bursa of the flexor pedis to become displaced to a greater or less degree: and to make up for this error loci, nature appears to bring about an increased secretion of synovia in the bursa, which makes "the tumours exhibit a more spread-out aspect, and are broad or even diffuse, instead of being spheroid or ovoid and circumscribed, and so extend downward upon the sides of the hock."

It is curious to notice how well aware Mr. Percivall seems to be of the different appearances and forms in which thorough-pin presents itself; yet at the same time it is equally singular that he should not have hit on the true causes of these different anormal conditions: but, then, we are led to suppose that he has not had the opportunity of dissecting or seeing specimens of these diseases; for he states, "we must ask those who have had opportunities of dissecting thorough-pinned hocks to what extent such changes of structure have gone or may go."

In reference to the latter part of the extract, I may, at a future period, have some observations to make; but, at the present time, I fear I cannot afford a good reason why I should further lengthen the subject, being afraid that I have already trespassed too much on the pages of THE VETERINARIAN: but, before bringing the present observations to a conclusion, I must crave permission to add a few remarks regarding the treatment of thorough-pin; for I am unable to state, with Mr. Percivall, that "of lameness from pure thorough-pin we know of no example on record; treatment, therefore, will hardly be called for." And this inability on my part cannot be owing to any difference between our kinds of practice, from which we have respectively gleaned experience; for what little practical experience I have hitherto gained has been chiefly through army practice, to which I believe Mr. Percivall, during a long professional career, has devoted strict attention.

Suffice it to state that I have seen a case of lameness arising from "pure thorough-pin." I say *a* case, for it was one that I have well in remembrance, and will presently mention it. It is unnecessary to observe that it is quite a common occurrence to have lameness from bog-spavin and thorough-pin combined; and I also imagine that I have seen more cases than one in which thorough-pin existed *per se*, and lameness arising from its presence. It may be proper to hint that the symptoms induced in lameness, the result of bog-spavin or thorough-pin, are much the same—a stiffness of the hock, which, in some cases, amounts to a total inflexibility of the joint; dragging of the toe; more or less tumefaction and heat in the vicinity of the tarsus, &c. But to return

to *the* case. It occurred above four years ago, and the subject of it was a troop horse of the Inniskilling Dragoons, well bred, and of a wiry make; and his hocks were not by any means of bad shape, but, on the contrary, evinced good formation: yet they suffered from thorough-pin; and this circumstance may be partly attributed to the fact of his being a hot-tempered animal in the ranks, and would attempt, by frequently plunging forward, to leave them. It was after rather a long and severe field-day that the horse was reported to the veterinary surgeon of the regiment for being stiff in the off hind leg; and on examination a tumour was found in the seat of thorough-pin, and it exhibited "a spread out aspect" along the course of the flexor pedis; the parts also were hot, and tender to manipulation. If my memory does not fail me, rest was given to the animal, and a high-heeled shoe was placed to the foot of the leg affected; fomentations were also applied to the tumours. This was followed up for some days; afterwards a blister was rubbed on the tumours, which acted well. The case seemed to be progressing most favourably: the heel of the shoe was gradually allowed to resume its usual height; and eventually the horse became sound. But this soundness did not last long; for, a day or two after being sent to duty, the tumefaction became larger—even attained the size of a goose egg—and lameness was again evidenced. The horse was placed under treatment a second time; and when the inflammatory action was subdued, a seton was inserted *immediately over* the thorough-pin on either side: it was allowed to remain in for two or three weeks, when it was withdrawn, and the parts were well blistered. When the effects of the blister had subsided, the patient was ordered exercise, which was by degrees increased. Ultimately he was returned to his duty as being sound, and he has continued in that state up to the present time. I may also remark that, in a few months time after he became sound, it was with difficulty that any one could detect that he had been treated for thorough-pin, no blemish existing, and the tumour that remains is very trivial in size. I can also affirm that I have seen setons act most favourably in cases both of bog-spavin and thorough-pin; and they are truly worthy of trial in cases where lameness is produced by either of these diseased conditions.

As to how setons operate, it may be supposed that they cause a deposition of lymph in the vicinity of the parts affected, on which it imparts pressure, causing them to resume gradually their natural dimensions, the deposit of lymph being present some time before it eventually becomes absorbed, and during its existence supports the capsular ligament and bursa; and by the time it does become removed by absorption, in many cases the bursa

and capsular ligament will have recovered their natural size, supposing that proper care has been taken during the treatment, and caution has been adopted in gradually bringing the animal to work again.

It is also unnecessary to observe that recovery is more likely to take place in those cases in which the hocks are of good formation, and when these diseases are dependent upon sheer accident, than in other subjects, when, from the bad construction of the tarsus, there is an evident predisposition in the parts entering into its structure to become diseased. In these cases a temporary recovery may be effected; but if the exciting causes are again allowed to operate, there is every probability of a return of the diseased condition. Yet, in other subjects, if time is taken, and proper treatment adopted, there is every likelihood of a favourable result.

In conclusion, I beg to apologize for the lengthy character of my observations; but I have imagined that it was requisite for me, when questioning the correctness of Mr. Percivall's statements, to be as explicit as possible; and thus render it an easy matter for the readers of *THE VETERINARIAN* to comprehend what are the opinions I entertain with respect to that anormal condition, thorough-pin.

At a future period I may offer some remarks on windgalls in connexion with the knee; at the present time I cannot think for a moment of trespassing any further on the space allotted out for communications in the journal of veterinary science.

I am, Sir, your's obediently.

Island Bridge Barracks,
11th March, 1849.

. The well known disease of which Mr. Hallen has given so dogmatical an account, is not thorough-pin, but windgall of the sheath of the flexor pedis tendon.—ED. VET.

OBSERVATIONS ON WINDGALL.

By ARTHUR CHERRY, *M.R.C.V.S.*

[Continued from p. 146.]

IF a very powerful effect is desired, the part to which the spirituous solution is intended to be applied may be well chafed with the hand, or with a horse-brush, or even the solution may be rubbed in with the end of the finger; but this is very rarely requisite—the simple saturation of the hair is generally sufficient. The effect of the application does not at first quickly shew itself; no pain or

irritation is apparent. I never knew a horse to bite or rub the part to which the solution has been applied; on the contrary, it is by no means uncommon to find that a limb which has been rested only on the toe of the foot, indicative of pain or uneasiness, and the gait in like manner shewing evident soreness, either or both will, even before the outward appearance of action, shew great mitigation: the foot is placed firmer on the ground, the heels brought down, or even the whole weight borne while the opposite or sound leg has been rested.

It may appear that these remarks favour of quackery, or at least of an overweening predilection for a favourite remedy; but facts are stubborn things to overcome, and when I have seen such striking results not only from this but other remedies, *when applied to properly selected cases*, I consider myself fully justified in speaking, it may be strongly, of them. One other point is also worthy of being noted, and that is, the very great difference which exists in the idiosyncrasy of the skin in different animals of the same species, and this entirely independent of diseased action, or of thickness or thinness of integument. I have known some very fine thin skins resist the action of rubefacient agents in a remarkable degree; so also have I known the thick flabby indolent skin shew similar inaptitude to be affected by similar agents, and the converse in each case; but, as a general rule, it may be inferred that where there is moderate degree of normal warmth, shewing that the capillary circulation is fairly developed, so will there be a greater susceptibility to be acted on by a rubefacient: but this must not be mistaken for the increased action of disease. At a very early period of my career, as a practitioner I became aware of this; and though *à priori* reasoning would lead to the belief that a blister applied to an inflamed leg—that is, one considered to be in a fit state for its application—would produce a much greater effect than on the opposite leg not so affected, the reverse is practically the fact. As an instance, take a horse that has sprung the flexor tendons, and has undergone the usual precursory treatment, heat still manifesting itself, the opposite leg cool or indeed *cold*: blister both; rub an equal quantity, and for the same period, on to each: the sound or cold leg will be very much more blistered than the lame leg; and, to equalize the effect, I have been in the habit of employing a less quantity of ointment, as well as less rubbing, to the sound leg than to the other, and I have always found that I have obtained thereby an equal effect on each leg. I may here give a rule for the application of blisters, which I believe is not generally known, very simple, and always efficacious,—that is, to rub the leg until it gets warm under the hand: sometimes the merely smearing on of the ointment will do this. I have seen so rapid an effect, that the application to the second leg could with

difficulty be completed from the first becoming so speedily affected: on the other hand, half an hour's rubbing to each leg has barely sufficed to raise a moderate blister. Not a bad plan, when it is suspected that this torpidity of skin exists (and practice and observation will soon give a tolerably correct idea), is to brush the leg well, and then rub all over the part to be blistered a liniment composed of equal parts of oil and spirits of turpentine; yet I would not advise any one to do this until some practical knowledge has been acquired. But I am digressing.

The first appearance of the action of the solution is slight swelling, the hair standing on end wherever the solution has touched; then an exudation from the surface of the skin bedewing the hair, rarely sufficient to run: this dries; a portion of the hair separates; a thick parchment-like eschar, through which the hairs penetrate, is formed, which gradually separates from the cuticle; a thinner exfoliation follows, and, if the solution be strong, a third, but still thinner, succeeds: with this the whole of the hair does not come off; the skin feels hard and indurated—very little, if any, soreness. This stage may take from four to six weeks, during which time no application ought to be made: even water is better avoided, though, should there be too much inflammation, cold water might be of service. The surrounding parts are not generally very tumid.

After the action has ceased, the hair grows again, and leaves no mark (after a time) of any treatment having been adopted; at least, I have not as yet seen any permanent blemish: perhaps this may have arisen from a most scrupulous avoidance of any greasy or oily application. When the new hair is growing, then, if such should be requisite, a second application may be made, but not sooner. As a general rule, I consider that the action set up does not subside under five or six weeks.

The diseases in which I have employed it are windgall, thorough-pin, incipient spavin, splent, ring-bone, and carpalis, and in curb at all stages; in short, in those cases which I have not considered it feasible or been allowed to use the potential cautery, and where the ordinary blisters have not been sufficiently powerful to effect the desired end.

From the fact of its not producing pain or irritation, I have found it invaluable in the treatment of foals or yearlings, where such an application as a blister has been called for, as a colt can be turned out immediately after its application. Another and very useful application is to the eyelids in subacute ophthalmia, as by a little careful manipulation it can be applied up to the edges of the palpebræ, and to any extent that may be required around them, with the greatest accuracy; and I have found much benefit in such treatment of some of the forms of ophthalmia.

In thus bringing before the profession a form of treatment and a powerful rubefacient agent, I do not pretend to lay any claim to originality, except, perhaps, in some of the details; for I openly confess that I was made acquainted with the agent, and the manner of its being compounded, by a gentleman, an amateur, with whom I was brought professionally into contact when a very young man. I was at first disposed to treat it lightly, and for several years I paid no heed or attempted its adoption: whim or some now forgotten cause led me to give it a trial, and I have never had cause to regret it. As I have no secrets, am utterly opposed to quackery, nor believe in nostrums or universal remedies, but sincerely believing that success alone depends upon the personal capability of employing the remedies which are open to all *at the right time*, and *only to the right cases*, and also that this capability does not so much depend upon genius or talent as upon the proper use of the ordinary faculties, combined with labour, or, if you will, observation; thus feeling, I cannot but look upon those who would keep secret any particular mode of treatment which may prove to be successful as very quacks, mere ignorami, and quite unworthy of imitation; but, at the same time, I hold it as an axiom, that nothing ought to be promulgated until time has tested its merits to myself.

I may, perhaps, hereafter feel disposed to send you a case or two in illustration; but cases, after all, are of little consequence, in comparison with general rules or principles.

I am, Mr. Editor,

Your's obediently.

REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—Hon.

OBSERVATIONS ON THE EXPANSION OF THE FOOT OF THE HORSE.

By AUSTIN C. SHAW, *Veterinary Surgeon, Member of the Royal College of Veterinary Surgeons, Fellow of the Veterinary Medical Society, and Lecturer on Veterinary Medicine and Surgery**. Dublin. Pamphlet, 8vo, pp. 23.

ACCIDENT has thrown this little pamphlet in our way. Until now we never heard either of it or its author. Small as it is, however, and obscured as it appears to have remained, its pretensions are any thing but trifling or uninteresting. It presumes to discuss no

* Mr. Shaw has lately been appointed veterinary surgeon to the 3d Dragoon Guards.

less a subject than “the expansion of the foot”—a property assigned to that organ by our best authors, both French and English, and one upon which those admirable theories of its functions, repeated by Coleman after others, year after year, to the universal delight, if not to the edification, of all those who attended his lectures. Professional persons will have no need to be reminded how comprehensive the subject of “expansion” is, how extensive its relations, how potent its influence. To deny that the horse’s foot expands under the weight of the body and action of the limbs, would be neither more nor less than to raise the shade of Coleman out of the tomb, to make Bracy Clark forget his years, to set off James Turner forthwith on an expeditious march after Mr. Shaw. Well might our author exclaim at the commencement of his work—“It is not without considerable *embarrassment* I enter on the subject.”—“Embarrassment” indeed! Had he written in Coleman’s time, he would have had the whole “College,” profession and all, about his ears. It is not to be denied that there were current, even in Coleman’s day, whisperings and misgivings concerning this vaunted “expansion.” The late Mr. John Norton, veterinary surgeon to the 9th Lancers—who while at College went by the *sobriquet* of “Jack Norton,” and was acknowledged to be a man of first-rate talent and ability—poor “Jack,” we say, would, on his way from lecture down to the “Adam and Eve,” ever and anon come out, as he walked along, with a “—— it! I cannot, after all, possibly comprehend how it is the sole descends and becomes flat, and expands the quarters! To me it appears monstrous like a piece of dough being placed as a wedge between two oak trees to force them asunder.” But this was all *entre nous*. We never heard, nor do we believe, that a syllable of such heterodox opinion ever reached the ears of the “Professor;” had it, nothing less than expulsion from College would have been the communicant’s doom.

“Many years ago,” says Mr. Shaw, “it was stated by (LAFOSSE, not) *Le Fosse* that the foot of the horse expanded and contracted; and he compared it to a saucer which became flattened on pressure being applied to its concave (convex?) surface.”——“Mr. Coleman, Bracy Clark, and others, followed the track of *Le Fosse* (Lafosse), advocating the descent of the sole, and lateral expansion

of the ground borders of the quarters, under the impression that if expansion did not take place there, how could sufficient elasticity be produced to award (ward off) concussion from the foot." Mr. Shaw, on the other hand, sets about to demonstrate, first, the impossibility of the descent of the sole, united as it is at every point with the coffin bone—whose bottom surface is a *fac-simile* of that of the sole—and consequent alteration in its shape from concave to flat, without the coffin bone undergoing similar alteration in its form, which, from the bone being "a non-yielding structure," is impossible; secondly, he professes to shew that Nature has provided the foot and leg with elastic "arrangements" amply sufficient for the purpose of warding off concussion.

"We observe the horny sole," he says, "to be most aptly arranged for the carrying out of both functions (of protection to the sensitive part, and of yielding under weight); its external surface being hard, and very little elastic, for protection against external injury: from which surface, as it approaches the sensitive parts, its elasticity becomes remarkable, to insure their safety from concussion. By this wise arrangement it is capable of compression, or yielding to weight from above, without any descent whatever occurring to its lower surface. We discover a similar arrangement in the crust, its ground border hard and unyielding, in order to endure the amount of attrition to which it is subject: from the ground border to the coronet it is gradually becoming more and more elastic, at once proving to us where the greatest amount of motion takes place. This very important peculiarity with regard to the crust of the horse's foot does not appear to have been sufficiently regarded in former treatises, and has, therefore, led to error in estimating its expansive functions." * * * "In the great mass of writings on the foot of the horse, the physiology of the laminæ has been erroneously represented, as possessing *highly elastic properties*. My conviction is, that they do not possess any such function. Were such the case, the sole would be unequal to sustain the shocks of concussion to which it would then be exposed by the descent of the coffin-bone, and more especially the sensitive sole, situated as it is, attached to the inferior surface of the coffin-bone and the superior surface of the horny sole, just in a position, mechanically speaking, to receive such pressure. But reason tells us such could not be the case, it being one of the most vascular membranes in the animal economy, through the tissue of which a vigorous current of circulation of blood is constantly maintained; that, were it not for the *unyielding nature*

of the *laminæ* that support the height of the animal, this highly organized structure would receive irreparable injury; which we invariably observe to be the case when the *laminæ* have become *deprived of their strength* by the existence of inflammatory disease—the coffin-bone descends, the horny sole gives way, presenting a convex surface towards the ground, the concavity of the coffin-bone being occupied by depositions of lymph, the result of disorganization of the sensitive sole. My views of the *non-elasticity of the laminæ* are borne out by Mr. Spooner, the present Professor of the London Veterinary College, who set forth in a lecture on the foot in 1843:—"The sole is attached to the crust by a fibrous substance, which is readily crumbled away, proving that *the sole cannot descend*." The theory that the *laminæ* possess an up-and-down motion is, therefore, quite a fallacy, as well as all theories derived from it. Mr. Ernes, a practitioner of considerable eminence in London, also stated, at a meeting of the Veterinary Medical Society, in 1843, that the sensitive *laminæ* and those of the hoof are wedged so closely together that there could not be any motion between them. A convincing proof of the fact is, that, if we take away the strength of the crust, by removing the horn with a rasp, the result will be that it (the crust) falls in—the coffin bone descends upon the sole, bulging it downward, presenting precisely the same appearance as we observe consequent on inflammation of the *laminæ*."

"Having discussed the physiology of the *laminæ*, I have one remark to make relative to the crust, which has also escaped notice, previous to arriving at the subject of expansion, that is, *the downward and backward motion of its front at the upper portion*, which affords a powerful spring in awarding concussion, as well as assisting the small pastern bone from (in?) its descent."

Touching the descent of the sole, and consequent expansion of the quarters, we are quite prepared to join hands with Mr. Shaw. It has always appeared to us irreconcilable with every principle of statics that one concavo-convex body in close contact at every point with another concave body could in any manner or measure alter its shape and become flat without either correspondent alteration in the concave body placed upon it and in close union with it, or else some separation and detachment of one from the other. The thing is perfectly impossible. But, supposing the concavo-convex body (the sole) did become flat, then must it dilate and occupy a broader space, and this it could not do without "expanding" or forcing out the quarters; an operation which, considering to what a

thin weak plate of horn the sole in many instances is, either by nature or art, reduced, is very like Norton's wedge of dough splitting the two oak trees. Whatever "descent" the sole has must be in conjunction with the coffin-bone, and that around the circumference of the toe is next to nothing; since we all know—and they who use concave shoes best know—how close the shoe may, around the toe, be approximated to the sole without producing any sensible annoyance.

If the coffin bone "descend," *i. e.* moves "downward and backward"—as on all hands it seems to be admitted that it does—then must the sole likewise descend, or at least *yield* to the required degree to admit of such descent of the bone. The latter is Mr. Shaw's opinion. He regards the sole as "capable of compression, or of yielding to weight from above, without any descent whatever occurring to its lower surface;" and he argues this to be the case from the fact of "its internal surface being hard and very little elastic, for protection from external injury, from which surface, as it approaches the sensitive parts, its elasticity becomes remarkable, to ensure their safety from concussion."

But the coffin-bone cannot "descend" or "yield" without either its connexions with the crust or the crust itself bending or yielding too. Coleman asserted that it was to the "elongation of the laminæ" the coffin-bone owed its power of descent; likening the 500 laminæ, in their operation, to 500 "springs." Mr. Shaw says, the laminæ are not elastic. Professor Spooner agrees with him. We said they were not nineteen years ago. Our words are—"Veterinary writers and lecturers have endowed the laminæ with a degree of elasticity; but it appears to us that the property (of elasticity) is referrible to their *connexions*, and not one inherent in themselves. The said 'connexions' being an elastic tissue attaching the laminæ to the coffin-bone, the fibres of which take the same direction (*viz.* downwards and backwards) as the horny fibres composing the crust and sole of the hoof*." To this elastic tissue it is that we ascribe the faculty possessed by the coffin-bone of yielding under weight and action, what Coleman has called "descending."

Mr. Shaw, as will have been seen from our quotations, thinks

* See "The Anatomy of the Horse," page 441.

differently, however. He represents, as a fact in the physiology of the foot "which has also escaped notice," in relation to the crust, "the downward and backward motion of its front at its upper portion" to be "a powerful spring in awarding (warding off?) concussion." Of this "motion" of the crust Mr. Shaw has not given any satisfactory demonstration. The ablation of "the strength of the crust" by rasping away the horn, and its consequent "falling in," is to us no proof of its "motion" in the normal or unrasped state. Our own opinion is, that the coffin-bone owes its moveability, or rather its yielding faculty, to the elastic tissue binding the sensitive laminae to its walls.

Before concluding, we would remark, for years past our mind has been deeply impressed with a notion that the received theories of the day offered in explanation of the physiology of one of the most beautiful and complex structures any animal body possesses, are doomed to undergo—to use the mildest expression—more or less alteration. Mr. Shaw has made a commencement, and he deserves commendation, and has ours, for it. There is a fine field before him; let him persevere. We shall be happy to hear of—we have never heard *from*—him, again. And we trust he will take in good part our counsel on the present occasion, which is, when he shall write again for publication, to be a little more careful in the correction of the press.

THE VETERINARIAN, APRIL 1, 1849.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

Mr. MAYHEW's entertaining narrative—if any thing *medical* can be called "entertaining"—in our Number for this month, of a case of that strange and rare disease, *melanosis*, while it warns veterinary practitioners how men eminent and experienced among them may, for want of attention to little circumstances, fail in their diagnosis, is calculated to impress the youthful professional mind with such knowledge as, in any similar occurrence, would probably prove the means of directing it to a scientific and correct judgment. It was the little pea-sized tumour at the root of the tail which, in the case in question, led to the disclosure of the constitution of the tumour, whose nature the closest and nicest

examination by eye and hand had failed to elicit. "Seeing the age and colour of the horse," says Mr. Mayhew, "my hand was immediately directed to the anus and tail." And then it was that he saw reason to include in his opinion "the probability that it (the tumour) would prove melanotic." "There was, however," continues Mr. Mayhew, "one fact which justified expectation that it was not of the worst character; for I had not known, read, or heard that this disease had ever attacked the part (the hip) on (or a little anterior to) which this enlargement was placed. Still, there was no portion of the body which might not be involved, and the tumour at the base of the tail made me fear the horse was afflicted by the disease to which age and colour predisposed it."

It is to the first part of the last sentence and the latter part of the preceding one that we would, on the present occasion, in particular, call attention; it so happening that we have now lying upon our table the outlines of a fatal case of the disease in question (melanosis), shewing almost every part of the body in a melanotic condition, which we are at liberty to publish; although we are forbidden by our old and respected correspondent—and he must excuse us if we add, we hardly know for what reason—from connecting his name with the highly instructive history.

The subject of the present case was "an old white mare*."

Last month (March) brought us intelligence of the old mare's death. Our professional friend had a long and cold ride to make an inspection of her body, and had to make it under most unfavourable circumstances, the ground being at the time "clad with snow," and the instruments at hand for the purpose any thing but such as he should have desired: under which circumstances he craves our indulgence for the imperfectness of his account. His report runs thus:—

"After receiving your kind replies to my inquiries, the mare grew rapidly worse. Her gait became staggering, and whenever any attempt was made to turn her quickly round, it required great exertion on her part to sustain herself lest she fell; and it was with great difficulty she rose up after lying down. Still, she fed well and maintained her condition. On the 27th February I saw her for the last time, when I recommended that she should be shot. This was not done at the time, however, but shortly afterwards;

* Whose history we unfortunately have somehow or other lost or mislaid.

and no sooner was she despatched than, without my knowledge, she was sent to the kennel. Fortunately, however, I got scent of the transaction, and forthwith set off to the kennel to gain what particulars I could.

“ On reflecting the sternum, disease shewed itself in its worst features. The bone itself was literally a mass of disease. It was black, carious, and softer than natural. The pleura costalis and parts adjacent to the bone were numerously beset with black tumours of a small description. The lungs were thickly studded with small black tumours, melanotic in character, and when cut into exuded a pulpy substance looking like a mixture of paste and soot. The liver was enlarged, and contained numbers of the same description of tumour, varying in magnitude from that of a pea to that of an egg. The substance of the spleen, when cut into, poured forth a thick, black, grumous fluid. A few solitary (black ?) patches and tumours were observed upon the mesenteric and peritoneal membranes.

“ On removing the contents of the abdomen, the disease was discovered to have made the most awful inroads upon the spinal column you can possibly imagine. Commencing with the tumour described in my former letter, extending from the root of the tail to the loins, I dissected out a mass of diseased substance several pounds in weight, solid, black, and shiny. I then proceeded to clear away all such parts as obstructed my view of the spinal column, when I found sacral, lumbar, dorsal, and cervical vertebræ all presenting the same aspect of disease as I have described the sternum to exhibit. Underneath, and in contact with the lumbar vertebræ, was a tumour of the breadth of a person's hand, which, like the other diseased parts, proved in substance black and pulpy. For the space of six or eight inches the lumbar vertebræ had every appearance of caries. The ribs, likewise, had partaken of the disease, both true and false, even from their connexions with the spine down to their very terminations. The mamillary glands were similarly affected.

“ In every morbid part, whether tubercles were numerous or but thinly scattered through its substance, or whether there existed small or large masses of diseased change, there was an evident disposition exhibited in them to the formation of cysts and encysted tumours.

“ A portion of the cranium was blackened; but the brain appeared of its normal character. I must, however, qualify this part of my account by adding, the head was too much mangled to enable me to speak on these two points with certainty.

“ To conclude, I look upon this case as one of *pure* melanosis. I say ‘pure,’ because I find that some of our able lecturers on human medicine are of opinion there is great similarity between melanosis and *fungus hæmatodes*: Mr. Lawrence, however, thinks differently, his notion being that the appearance taken for the latter disease is nothing more than an altered feature of melanosis.”

VETERINARY JURISPRUDENCE.

Armagh Spring Assizes, March 9, 1849.

Before Chief Baron PIGOTT.

CASE OF WARRANTY.—M'Quaid *v.* Farley.

THIS was an action brought by M'Quaid, as appellant, against Farley, the respondent, to recover damages sustained by breach of warranty of a horse. The case came before Assistant-Barrister Tickell, at last quarter sessions, at Markethill, when appellant's case was dismissed, on the grounds of a consideration having been given to him on account of one alleged unsoundness, although another existed at the time of sale. The case was opened by Mr. Quin, appellant's solicitor, who stated that, in the fair of Moy, M'Quaid purchased a four-year-old horse from Farley at £12..10s, receiving a warranty that he was all right and sound; and in order to be satisfied he employed a person of the name of Smith, who called himself a veterinary surgeon, but who, he understood, was not a qualified member of that profession, to examine the horse. Smith condemned the horse for a “jack” on his off hind leg, and represented that unsoundness of so trivial a nature, that plaintiff agreed to take the horse at a reduction in the price of 7s. 6d. on account of the “jack,” if otherwise sound. It subsequently turned out that the horse had another disease which prevented him from taking a sufficient quantity of food to enable him to work, and was utterly useless to appellant, being what is termed a quidder. The horse was brought to Mr. Small, a qualified veterinary surgeon, who can explain the nature of the affection.

Alexander Agnew examined.—Was in Moy fair on the 1st of September last, when the horse was bought for £12..10s.; he was engaged all right and sound, and to draw a fair load; saw the horse examined by William Smith, who said he was “jacked” in both hocks, but which would not signify. M'Quaid agreed to take

him, if otherwise sound; at a reduced price, and, by the award of a third party, 7s. 6d. was the reduction agreed on.

Cross-examined by Mr. Atkinson.—Saw the horse afterwards; is no relation to any of the party; saw him tried to draw; could not draw an empty cart without blowing from weakness; he could not eat any thing but flummery [*laughter*]; let all the hay drop out of his mouth after chewing it; does not know how he lived except on flummery and meal seeds [*laughter*]; he was to be all sound; no objection except for the spavin, and was engaged to draw a fair load.

To the Court.—The agreement to take the horse with a reduction of 7s. 6d. was on account of the spavin alone; does not know what the horse was worth; has not seen him since the auction; the defect was discovered on the day after he was bought; the horse was sold by auction at Mr. Small's Bazaar, Armagh; the Farleys were present at the sale.

Robert M'Clean examined.—Was in the room in Moy fair when the reduction of 7s. 6d. was agreed to be made out of £12..10s., the price of this horse, on account of a jack on the off hind leg; did not hear any thing said about drawing; was by accident at the house and heard the conversation; was not there on this particular business; came in after the horse had been examined by Smith.

Cross-examined.—It was on account of the spavin only that the reduction was made, and, as far as he could understand, the first bargain was to stand good; was not examined at the sessions.

William Singleton examined.—Was present at the bargain for this horse at the Moy; it was engaged all right, and to draw a fair load.

Cross-examined.—Did not hear M'Quaid say he would take the horse as he was, by getting a reduction in his price.

Mr. Small examined.—Is a veterinary surgeon, a licentiate of the Royal Veterinary College, London; examined this colt on the 5th September last; was spavined on both hind legs, and had a broken molar tooth, which caused him to quid; it was the last molar in the under jaw of the left side; it is a serious unsoundness; could only be remedied by extraction of the stump; the operation would be troublesome and dangerous; had the horse in his hospital stable, and had him cast for a proper examination; the disease of the mouth must have existed some weeks at least, there being caries or ulceration, indicated by the fœtid smell from the mouth.

Cross-examined.—Has no doubt but the disease could be cured by extracting the tooth; would undertake to extract it for a guinea; the operation would be a dangerous one; has seen the jaw fractured in extracting a tooth; the horse could not masticate sufficient food to maintain him in condition for work; would not

undertake to make him sound for a guinea; does not think he will ever be well unless an operation is performed; does not say that the operation would certainly cure him; in all probability it would succeed; a horse has forty teeth, and a mare only thirty-six; would not consider him unsound for having one tooth less, provided the animal suffered no inconvenience from it in feeding; would think the horse not worth a sovereign as he was, although, in all probability, he might be cured for a guinea.

To the Court.—The horse must have subsisted on fluids, and put in condition for the fair by gruel, or boiled flax seed, or such like food; the gums had become reflected over the broken tooth; and the pressure of the opposite tooth on them, during mastication, must have been very painful to the animal, and was quite sufficient to prevent him from feeding.

For the defence, Hugh Gray examined: was present at the sale of this horse; he was engaged sound; was examined by Mr. Smith in the fair, and condemned; M'Quaid then offered to take him as he stood, by throwing off 10s.; the seller refused to allow so much; he effected a bargain between them by throwing off 7s. 6d.; knows the horse would draw; he worked in company with his horse, and did all the spring labour with him; thinks the horse very cheap at the money.

Alexander Farley examined.—Was present at the bargain, and at the second transaction after the horse was examined and condemned; 10s. 6d. was put down on the table by the seller, when M'Quaid agreed to take him as he was for that sum; he (witness) lifted 2s. 6d., and handed it back to the seller, who took the horse as he was without any engagement.

To the Court.—Did not hear any thing said about giving up the engagement.

John Farley examined.—Remembers the horse being condemned in the fair; the buyer was to take him as he stood by a reduction of 7s. 6d.; it was so stated in the house that M'Quaid was to take him as he stood.

Robert Gray and William M'Mullan gave like evidence.

The Chief Baron viewed the case as a very simple one; there was evidently a warranty of soundness, and to draw a proper load, in the first instance, understood and expressed by both parties. It would be utterly absurd to suppose that to throw off 7s. 6d. on account of a jack would cancel the warranty of soundness and engagement to draw a fair load. There was evidently gross misconduct on the part of the defendant in concealing the most grievous defect of the animal he sold under the cloak of a disease of minor importance. He must reverse the decision of the court below, and decree for the full amount, £8.0s.6d.

Armagh Sporting Chronicle.

[We return our thanks to Mr. Small.—ED. VET.]

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AN ESSAY ON THE MANAGEMENT OF THE FARM
HORSE,
CONNECTED WITH THE BREEDING AND REARING OF THE ANI-
MAL; WITH THE MOST PROFITABLE PLAN OF KEEPING.

By ROBERT READ, *M.R.C.V.S., Crediton.*

“ Order is gain : waste not, want not.”

[This “ Essay ” was sent in March 1848, to compete for the Prize offered by the Royal Agricultural Society for “ the best Essay on the Management of the Farm Horse,” &c.; but in consequence of its not arriving at its destination, owing to the sudden seizure of its author with an acute attack of bronchitis, until the 10th of the said month—the 1st being the date fixed for the reception of the papers of the candidates—it was not permitted by the Chairman of the Journal Committee to enter the ranks of competition: under which circumstances it has been by Mr. Read kindly handed over to us for publication in THE VETERINARIAN.—ED. VET.]

PRESUMING the object of the Royal Agricultural Society, in offering a Prize for an Essay on the management of the farm horse, is to glean the most efficient method, based upon sound and practical principles, for the breeding, rearing, and keeping of the animal, it will be useless, and also occupy too much of the valuable pages of the Society’s Journal, to enter into the history of the horse, and trace it down from Holy Writ to the present period. Those readers who are fond or desirous of becoming acquainted with the primitive state or existence of the noble animal, I will refer for information to the many authors that have written on the subject, viz. “ Youatt on the Horse,” Professor Low, Col. Smith, Karkeek in THE VETERINARIAN, and Burke in the So-

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ciety's Journal. Beautiful and expressive descriptions of the "willing slave" have been ably portrayed by the poet and classic; sovereigns and warriors have also added their meed of praise. The horse, identified as he is with our pleasures and our wants, takes a pre-eminent rank among quadrupeds; he contributes to our labour and to our profit, and is also an object of universal regard. Historians say, Great Britain owes but little for its present race to any indigenous breed it might have possessed: imports of the animal from other countries have been chronicled; historical writers say our only native claim is the Welch pony. It is said, the English cart-horse was originally imported from Normandy or Flanders. It matters not whence we derived our parent stock; our present race, although not universally good, ranks superior to every other. Of the different breeds of the British cart-horse that have acquired celebrity for good qualities and conformation, the breed in the valley of the Clyde, called the Clydesdale breed, are strong and hardy, active and staunch, and well adapted for all kinds of farm work or labour. The black cart-horse of Lincolnshire, bred in the midland counties, is an animal well known, and, when about four or five years old, is sent into the London market, and realizes a fair profit. The Suffolk Punch is a powerful animal—surnamed Punch, from his round and compact form; excellent for heavy draught, and well under command. The original breed is said to be nearly lost. There are many other breeds described by authors; but the breed of the present day is what is required in this Essay: to give or detail the same as near as I can, will be my endeavour. The breed of the cart-horse is very diverse at the present day; every county—in fact, I may say, every province—has its favourite stallion serving mares at a very low price, without the least attention being paid to symmetry, constitution, or hereditary tendency to disease, in either animal. Whilst such a state of things remains, we must rest contented with a mixed or mongrel breed. It may be admitted, but with some exceptions, that very few men pay so little attention to the breeding of horses as the agriculturists themselves. A very common practice exists with the farmer, should he happen to breed what he considers a fine animal, to allow him to serve mares in his own vicinity when only two or three years old, and at a low charge, thus laying a sure road for a puny progeny; and if no judgment has been paid to the discernment whether he is free from any hereditary or constitutional defect, disease, as a consequence, may be entailed, or any other imperfection or bad quality: this is, therefore, a practice highly reprehensible.

Stallions frequently travel from one part of the county to another, stopping at the market towns; bills are placarded, stating their

pedigree and good qualities, to entice owners of mares to have them served. Occasionally, entire horses may be found in this way possessing plenty of bone, muscle, and conformation; but the great evil is, farmers pay too little attention to the *mare*: it is proverbial with many, "if she is worth nothing else, she will do to breed from." This very bad system must be eradicated in connexion with breeding: both animals must be perfect, as far as our judgment can discover, or else, as I have before stated, our breed of horses will never be generally good; but a mongrel race will still continue, and degeneration progress, if farmers or breeders do not pay more attention than has of late been done to the hereditary transmission of disease. No one can expect a sound or a healthy animal from either sire or dam, if judgment with reference to form, constitution, and freedom from hereditary taint, has not been exercised. It is, therefore, not only incumbent on the Royal Agricultural Society, but also on every other provincial Agricultural Society from which premiums are awarded for horses, to have such competent judges as are able to discover any hereditary tendency to disease or defect in the animal capable of being transmitted to the offspring. If any disease or imperfection can be detected, such horse or horses should then be declared unfit for the propagation of stock. About six years since I first hinted this plan to the Royal Agricultural Society, having adopted it myself when I acted as a judge at the Devon Agricultural Society at Exeter. More than once I have witnessed awards of premiums adjudicated by incompetent persons to animals labouring under constitutional defect. Competent persons should be consulted to detect disease before any animal is bred from, either by the farmer or breeder; the adoption of such a plan would tend, in a great measure, to banish hereditary disease and defect in our stock. What can be more productive of injury than awarding a prize to an animal having any constitutional disorganization? It is nothing more than granting a license for propagating disease. An entire horse gaining a premium at any Agricultural Society is immediately stamped as a good one, and blazoned all over the country as a nonsuch, although frequently entailing irreparable mischief.

In breeding, the mare should not be less than five years old, although some farmers breed from mares when only three or four years old. It is not a commendable practice to breed from animals until nature is well developed in form, and every organ has acquired maturity; nature will then be more energetic in promoting the growth of the foetus. In breeding from young mares, the foetus must necessarily deprive her of those constituents required for the formation of her own frame. In the young mare, lactation is also very injurious, by depriving her of those organic and inorganic

elements so essentially required for her full growth : stunted animals frequently result from this practice, which otherwise might have acquired bulk and perfection.

The brood mare's chest, for agricultural purposes, should be roomy ; her shoulders oblique and deep ; her girth large, and her carcass rather long, with broad loins and wide quarters : freedom will then be afforded for the expansion of the uterus during gestation, and every facility will be given for the expulsion of the foetus ; such points being symbolical of great strength. Muscular form cannot be too prominently developed in the brood mare when compact : a well-formed ham, and the thighs possessing plenty of muscle, is a great desideratum, with large bony joints and flat shanks. What I have said of the hind quarter is in a great measure applicable to the fore,—have as much well-formed muscle as possible from the arm to the knee, but gradually lost as it approximates the latter. The tendons should be well defined in passing down from behind the knee to the fetlock, and not have the appearance of being drawn in, as it limits their freedom of action.

The pastern joints should be large, neither too upright nor too oblique. The hoof be tough and free from brittleness, and be black and smooth. The standing of the fore legs in the cart-horse is not considered objectionable, if they do slightly incline under him, provided the legs are straight : it is the opinion of some that such position is favourable for draught. Some, again, consider the toe should be in a direct line with the point of the shoulder. A good head is a very valuable acquirement in either sire or dam ; it is generally the first point that attracts attention. The forehead should be broad, the ears moderately long, but not thick ; the eyes prominent, clear, and large, with thin eyelids ; the channel under the jaws wide and clean. In the cart-horse some do not like the Roman nose, it being considered indicative of a sluggish disposition. The neck from the withers should gently curve, and lessen in size as it reaches the head, since nothing is more displeasing than a head badly set on.

What I have said of the breeding mare is also applicable to the stallion, with this exception, that the neck and crest should have greater bulk and form. The male animal ought not to serve mares until he has attained full maturity ; he will then be in a fit condition for propagation. It cannot be attended with good results to allow animals to exercise their sexual organs when only two or three years old : there is no custom more to be reprehended than allowing animals, when too young, to propagate their species.

Temperament should also be regarded both in the sire and dam, as nothing renders a horse more valueless than an irritable, fretful, or restless disposition : animals having such may, in truth, be

said to possess a nervous temperament, and do not maintain a hardy constitution or condition, and suffer more than others from either local or general disorder. There is another temperament of quite an opposite character, called the sanguineous, which denotes an animal with a full and plump muscular form; a powerful external conformation, and full of energy; willing, docile, enduring in work, and maintaining condition, and when attacked with disease soonest recovered. There is not the least doubt that animals have in common, or are susceptible of, distinct feelings or emotions, and that their actions are influenced by temperament. To procure animals for breeding without some defect would be difficult; the man who therefore breeds, it matters not from what animal, should always keep in mind, "like begets like," and that this is as applicable to man as to beast. Some authors and essayists on the horse consider the breed of the farm-horse but little degenerated; so much the more are our energies required to prevent its further degeneracy, by endeavouring to annihilate all those faults capable of being transmitted to the offspring, full well knowing we have to contend also with other common foes, *Locality*, *Climate*, and *Soil*, which are the principal agents in perpetuating degeneracy in animals not adapted or suited to the same. Breed, therefore, from animals best adapted to your locality, and capable of maintaining a good and sound constitution.

Gestation.—The management of the mare during conception does not receive much attention from the farmer; some even work her on until the time of foaling is just arrived. Taking it as an universal custom, very few evils result from it: to countenance such proceedings is not commendable, more especially if the work be heavy or exhausting. Nothing conduces more to the well-doing of the mare in keeping her healthy than moderate work on the farm: it induces vigour, and keeps the secretions, so beneficial to the growth of the foetus, normal. The plan is a bad one of turning the breeding mare into a paddock or small inclosure; sufficient exercise is not taken, it renders her inactive and lazy, and, if fed even moderately, she accumulates fat, becomes enervated and weak, and her sanguineous system feeble: the growth of the foetus will also suffer. Exercise unlimited, or fair work with good feeding, are compatible with the support of the stamina of the mare and growth of the foetal colt. To obtain the full benefit of nutritious and succulent grasses, May is the month usually preferred for putting the cart-mare to the stallion; the succeeding spring will then have somewhat advanced by the time the mare foals. Should the spring perchance be backward, the mare should have, as an auxiliary, eight or ten pounds of oats mixed with a little chaff and bran per diem. Nothing is more instrumental in furnishing the mare with

those constituents required by the foal for the formation of bone and muscle than *oats* and *bran* : the farmer may rely on it as a sound and true axiom, that "starving the mother is starving the foal." During lactation the mare should be well supplied with food capable of inducing milk, non-azotised food is therefore essential as well as azotised. Some mares make fat fast during lactation, which is injurious to the foal, since fat-making and milk-making cannot co-exist. For the first month or six weeks the mare should have ample space to gambol about with her foal; the exercise the latter uses will materially tend to develop his frame and muscles. Housing or shedding the mare, and giving succulent and nutritious food, renders her inactive, and disposes her to fatten, and thus limits the quantity of milk : the foal also has not sufficient room to gambol, whereby organic development is stunted.

I do not advocate artificial food for the foal whilst sucking; nothing more is required than the milk of the dam, and such natural provender as it will eat of its own accord. Whatever is given, let it be through the system of the mother : if you supply her, you supply the foal also : from this source sufficient nourishment will have been given until weaning time arrives.

From the fifth to the seventh month is the general time for the foal to be separated from the dam; it sometimes depends on the backward or forward state of the foal. Some house the foal for a few weeks, to make it forgetful of its dam. As good a plan as any is, to turn the young animal out with a few quiet companions into a piece of sound pasturage, as he will then be ranging about for his food : the exercise will be the means of making him vigorous, and exciting the growth of his fabric. As the autumnal season advances, and the natural herbage becomes scanty, feed him daily with a few feeds of cracked oats and bran. As winter sets in, a shed should be allowed him to run into : hay will also be required in addition to the oats and bran. Exercise in the young animal, as I have before said, is required for the development of external conformation; it is as absolutely necessary, also, to promote a due expansion of the chest, and thus give room and space for the due action of the heart and lungs, on which the healthy state of the blood depends.

It is customary with farmers to allow the young colt only the run of the straw-yard during winter, which is a pernicious plan : subsisting on stamaneous food alone, they soon lose the condition gained during summer, and become almost skeletons. It may be well said, the summer colt and the straw-yard one are two different animals. During winter, the farmer should not be forgetful of a liberal allowance of food, that the rudiments of the machine may not be checked in their formation. It is now not a very difficult task for the agri-

culturist to select the most proper food for accelerating the growth of the young animal, Liebig and others having demonstrated the different kinds of food best suited to their wants: by referring to the Society's Journal, a table of the different substances, containing azotised and non-azotised matter, will be found. Another object gained by the farmer in feeding the colt during winter is, it makes him acquainted with him, and, knowing his wants are supplied by him, renders him gentle and quiet, from which emanates attachment. The man who uses the young animal with cruelty or severity ought to be discarded: obedience will in most cases follow kindness and gentleness, whilst harsh usage will make the animal savage and unruly. The tuition or breaking in of the cart-colt commences when he is three years old, and should begin by working him moderately on the farm. Put on the harness, and exercise him with it on a few hours every day; he may then be put in between two others in some vehicle: in most cases he will quietly submit and follow the example of his companions, and soon understand his duty, more especially if the wagoner or carter be up to his business.

Colts are sometimes very obstinate and perverse; yet, notwithstanding, harsh or severe measures should never be resorted to: with soothing and some patience you will rarely fail in conquering him. Very few colts are by nature vicious; but cruel and savage treatment is sure to make a vicious and an untameable animal, and lay the foundation for every disobedient habit. The unbroken colt should never, at first, be put to a heavy draught: whatever he is harnessed to, should follow with ease after him, and by gentle inducement inure him to heavier loads; and when he finds the resistance is overcome without difficulty, it will make him more compliant and willing to receive instruction. The brutal and inhuman measures heretofore resorted to in breaking in thoroughbred and other colts have, I trust, now given way to more lenient methods, characterised by humanity. Coercive and every inflictive punishment should be abolished in the education of all animals domesticated for the will or wants of man.

The four-year-old colt, with most farmers, is sufficiently under command to perform all the lighter work on the farm, and if his labour be managed with judgment, it will benefit him; but, even at this age, pulling heavy loads or long journies on the roads ought to be avoided: sprains or extensions of the tendons or ligaments, or disease of the feet, often ensue from it. When arrived at maturity, and his frame consolidated, all kinds of labour may then be used, but not before. Scores of thoroughbred as well as cart-colts are annually ruined by being over-weighted or over-worked before the organism of the animal is completely matured and consolidated.

No young animals are more prone to disease than the pampered or over-fed ones: living an idle life, accumulating fat to the exclusion of muscle, their tone becomes enfeebled, and, when put to work, they are sure to become the victims of disease.

Diseases of the parturient mare and foal are not many. Udder-ill, or an inflammation of the mammary gland, sometimes comes on in about three or four days after foaling. It assumes occasionally an acute character: the udder becomes painfully distended, very tender to the touch, so much so that she will not allow the foal to suck. The treatment consists in the abstraction of five or six quarts of blood, with laxative medicine, and also emollient fomentations. Her diet must consist only of bran mashes, with a little hay; no corn to be allowed until the inflammatory action has subsided. The udder sometimes becomes very much distended about three or four weeks before foaling. Bleeding is here also sometimes indicated, with low diet and a little cooling medicine. Never give an aloetic purge to the parturient mare more than once, as I have seen it produce abortion. Bleeding rarely induces any ill effect when exercised with judgment; whilst the administration of a dose of physic is always attended with danger. After weaning the colt, the udder frequently becomes over-distended with milk: once or twice milking out the udder, with low diet for a few days, is all that is required. The parturient mare is also liable to an inflammation of one or both hind extremities, which happens about three or four weeks before foaling, the result of impeded circulation: the upper part of the extremities gets stiff, hot, and tender; the fever sometimes runs high, and requires the abstraction of blood, with fomentation of hot water. The assistance of the farmer or veterinary surgeon is sometimes required to help the mare in the act of parturition, but not so often as in cattle. Unnatural presentations do not so frequently occur in the mare as in the cow. Manual assistance is sometimes required in natural presentations, when the throes of the animal are languid, and the work of expulsion does not proceed. In those presentations in which the breech presents, let your hand and arm be well smeared over with lard, and endeavour to lay hold of the hind legs. The fœtus can be taken out backward, but force only in moderation will be necessary. In all cases of unnatural presentations the aid of an established veterinary surgeon will be required. In aiding the parturition of animals, never use any undue or improper interference.

[To be continued.]

CONTRIBUTIONS TO THE PATHOLOGY AND PRACTICE OF VETERINARY MEDICINE.

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FOURTH CONTRIBUTION.

Phlebitis.

Tuesday, Feb. 13th, 1849.—WAS requested by Mr. Broadbent, of Longwood, near Huddersfield, to attend upon a black colt.

History, &c.—The animal is of slender formation; is rising five years old; stands fourteen hands two inches high; has been in the hands of Mr. Broadbent about two years, during which period he has done but very little labour, and the labour to which he has been occasionally subject is that of carrying a person a few miles about home. He has always been a very quiet animal, spiritless, and easily fatigued. During the latter part of September, and a portion of October 1848, the colt in question was affected somewhat severely with strangles; a large tumour was formed in the submaxillary space, which I understood was very tedious in ripening; that, in the end, it burst, and discharged a laudable quantity of pus; that, during the existence of the disease, the animal was greatly reduced in condition, and from that time to the present (a period of about four months) he has never done well in any respect—a something, to use the owner's expression—"has appeared to hang about him detrimental to his well-doing." He has coughed a great deal at times; perspired upon almost the least exertion; and his appetite has remained very fastidious. Eight days ago he became worse, and a farrier was called to attend upon him; the precise symptoms which were at that time manifested I cannot learn; it appears, however, from what I am able to gather, that the animal was affected with severe diarrhœa; that the farrier gave medicine which had the effect of increasing it; and, in order to allay the irritation produced, he abstracted blood to the amount of three quarts. On Saturday last he visited his patient, and told the man in attendance that he was all but well; although at the time he was eating little, and evinced great debility if moved from the stall. On Sunday, the day following, the animal was observed

to breathe quicker than they had observed previously; but it appears no further notice was taken of the matter until this afternoon; when the man whose duty it is to attend upon him found the poor brute in a profuse state of perspiration, in which he continued for more than two hours: it ran from him in large drops, and completely soaked the woollen sheet which was placed around his body. Soon afterwards I was requested to attend.

Present Symptoms.—The head is held low and drooping—the countenance is sunken, and cadaverous looking—the ears and extremities are cold; and the body emaciated. The respirations are 22 per minute, and the pulse 74; the breathing is soft and feeble—the pulse round and soft, and a little irregular in its action. On applying my ear to the chest on the left side, I find the sound along the superior region to be moderately clear—clearer still along its middle region—below the middle region it becomes duller—while towards the bottom, and at the bottom, it is altogether lost; blended with the murmur on the left is a soft mucous râle, with, now and then, a low snoring-kind of sibulous râle; sound in the trachea normal; sounds of the heart normal. The mucous membrane of the nose is shadowy; throat slightly sore; a thin mucous discharge issues from both nostrils; he also coughs occasionally, which is loud and sonorous. The sound from the right side of the chest is somewhat different from the left. Along its superior region it is barely distinct—middle region clearer; below the middle region to the bottom, entirely absent. The animal dungs occasionally in small quantities, which is coated with mucus; the appetite is poor; he now and then masticates a little hay.

Treatment.—The extremities to be bathed in warm water—the hair to be closely cut from the sides of the chest, and strong blister-ointment rubbed over the exposed skin; the throat, externally, to be well stimulated, and the extremities bandaged.

R	Camphoræ pulv.	3vij
	Potass. nitratis	3viij
	Digitalis	3iij
	Ammoniæ carb.	3vj

The above to be well incorporated, and divided into eight doses: one to be given every four hours, mixed in six ounces of water, and spt. of nitre ℥jss.

14th, *Eleven o'clock*, A.M. — Respirations 23, and pulse 72 per minute. The respirations are deeper drawn, and more heavy than yesterday; the character of the respiratory sounds is the same in every respect as yesterday; the pulse is not so round—it is somewhat wiry, and more feeble. He has not been heard to cough

since I saw him last; extremities cold; blisters have acted but very slightly; repeat fomentations; rub in more blister over the sides; continue medicine. To have a little mashed malt and boiled corn to eat.

15th, Two o'clock, P.M.—Ears warm; extremities warm; appetite a little improved; he has just dunged, which dung is very thickly coated with dry-looking mucus; blisters a little fuller. Respirations 23, and pulse at 74 per minute; pulse intermits a period of about three beats, every thirty-three or thirty-four beats. Heart's action sometimes strong and rapid, then becomes slower, and the sound appears to almost die away; then, suddenly, it resumes its state of agitation, to again become faint. Respiratory murmur over the inferior half of the right lung completely gone; murmur over left lung much the same as at first. Continue medicine, fomentations, &c., as before.

16th, Six o'clock, P.M.—Respiratory murmur over the left side still maintains the same character it shewed at the first; murmur over the right side more obscure than yesterday. It is now faint along the superior region, and from the lower part of the superior region to the bottom it is dead. Along the middle region I can now and then detect a sound somewhat resembling the cavernous râle; but it requires more hollowness of tone to make it complete; I can also distinctly hear a soft cracking sound, as though air was very feebly blown through thick mucus. Respirations 21 per minute, and pulse 66, which is regular, but wiry; the sounds of the heart still vary in their intensity, but not so much, by far, as yesterday. Ears warm—fore extremities moderately so. This morning the horse again had a severe sweating fit, which lasted about two hours; and at present the back, from the chine to the hips, is wet. This afternoon he laid him down for about an hour, and when down he was quiet: during the day he has dunged twice. Occasionally he paws the ground with the right fore foot.

R	Potass. nitratis	℥jss
	Antim. tart.	3v
	Camphoræ ..	3vj
	Ammoniac carb.	3vj
	Opii pulv.	℥iij

To be divided into eight doses: one to be given every four hours in six ounces of water and two ditto of spts. nitre.

17th, Four o'clock, P.M.—Respirations $22\frac{1}{2}$ per minute—pulse 62, jerking and feeble—respiratory murmur over the superior region of the right lung is now faint: the sound has a stifled character—it is as though the lung would permit air to enter it, but was prevented from pressure applied over its whole surface. Cavernous râle to-

day very distinct. Murmur over the superior half of the left lung very clear; lower half dead. Ears very cold; extremities the same; pulsation is present in the jugulars. Action of the heart faint, and slightly irregular—partial sweats are present, particularly upon the back, shoulders, and sides—dungs small quantities occasionally—stales occasionally; specific gravity of urine 1.46; contains a large portion of mucus; in other respects normal. Continue medicine—give him anything to eat he will take; and in addition to his medicine, and between periods, give an ounce of yeast in a little cold water.

18th, *Four o'clock*, P.M.—This morning the animal was again found in a state of severe perspiration—his clothing was completely saturated with wet—it also ran from him in large drops—he paws the ground a great deal, and I learn, upon close inquiry, that he has occasionally done so from the commencement of his illness: he grinds his teeth—pulse 84 per minute, irregular and jerking—respirations 26 do.—respiratory murmur over the superior region of the right side is very clear to-day (it is loud, in fact)—I can also detect it (though but faintly) through the middle region—lower region still dead—murmur over the left side same as yesterday. Cavernous râle distinct; it exists to-day along the inferior part of the middle region of both the right and left sides of the chest. Action of the heart irregular, and what I should denominate tumultuous. Continue the use of the yeast, and give the animal any kind of food to eat that he will take.

19th.—To-day, about twelve o'clock, Mr. Broadbent called to inform me that the animal died about eleven o'clock last night, and that he wished me to send some one for the carcass: this I did, so that I had ample opportunity to examine it with care.

Examination seventeen hours after death.—On removing the skin in contiguity with the penis, two bulbous substances, situated in the locality of the testes, were exposed. At the first glance I, for a moment, mistook them for the testes; on cutting into them, however, a large quantity of very thick pus became liberated, the colour of which was a pale pea green, destitute, or nearly so, of effluvia: both these masses passed by a narrow neck through the abdominal rings into the cavity of the abdomen, on entering which they again became bulky, and were of a dumb-bell shape. I slit up these internal bodies, and more pus, similar to the other in every respect, became liberated. The internal surface of these bodies was pale, and a little rough, and very closely resembled the villous portion of the stomach. A similar deposit of pus existed in the cellular tissue around the superior surface of the cœcum; also between the stomach and the diaphragm, between the liver and the

diaphragm, around the matrix of the right kidney, and around the trachea, just where it passed into the chest. On separating the head from the neck for the purpose of carefully removing and dissecting the brain, I cut upon another large deposit of pus, which existed in the guttural pouches. The pus in these pouches differed somewhat from that liberated in the above-named parts; it was more dense, and appeared to consist of coarse grain-like portions: in the other parts it was of the consistence of thick cream; in the latter locality it had lost its fluidity, and I had to remove it from the pouches with an old spoon. The mucous membrane of the pouches was much thickened; the greater portion of its surface was very white in colour, while other portions of it presented patches of vivid red, of about the size of a crown piece.

Muscular System.—The muscles of animal life were moderately firm; their colour was good, exhibiting, in fact, a state of freshness which I scarcely expected.

Digestive Organs.—The stomach around where the pus was deposited was greatly thickened, and its muscular structure softened; internally it was very pale, both over its cuticular and mucous surfaces: it contained about four pounds weight of food in a dry state; it was, in fact, formed into a kind of ball, from which the stomach could be withdrawn perfectly clean. The small intestines were all more or less inflamed; the mucous membrane in many places displayed large patches of gangrene. The inflammation appeared to have been the most intense at the anterior extremity of the jejunum, in the middle of the jejunum, and along the greater portion of the ileum. The cœcum also exhibited effects of disease: its coats were considerably thickened, and in a state of gangrene; they lacerated with very little force; and the whole of its internal membrane was of a dark dull red colour; as also was the same membrane, here and there, of the small intestines. The same appearances were again presented by the large bowels; patches of gangrene, common alike to the serous, muscular, and mucous tissues, and blended with other patches of the dull red colour above named. The omentum and mesentery were highly inflamed, and the cavity of the abdomen contained about two gallons of dirty green-coloured fluid, in which floated a small portion or two of lymph. The cellular tissue around the cœcum, the stomach, the right kidney, the liver, and the trachea, where the pus had been deposited, was also much increased, I think, in quantity, but at any rate, most certainly, in thickness; it appeared, in short, more like fibrous tissue than areolar. The liver presented the granular state so common to this viscus, and its capsule readily peeled away. The spleen was healthy, and contained but very little blood.

Urinary Organs.—The bladder was empty; its mucous mem-

brane was pale. The kidneys were large, healthy, and firm in structure; ureters and urethra healthy also.

Nervous System.—The substance of the brain was firm and natural in colour, and its vessels free, or nearly so, of blood. The spinal marrow was also free from any anormal state. The nerves I did not particularly examine.

Organs of Respiration.—The nasal passages were darker in colour than natural; this darkness was greater about the larynx and pharynx than either in the trachea or the bronchial tubes. The vessels common to the mucous membrane of the trachea were much injected, and the membrane itself was shadowy. The appearance throughout the bronchial tubes was much the same. Both lungs were free from disease, their structure or substance was crepitous throughout: the left lung was a little congested with blood, and for about half its depth it adhered to the pleura costalis; the right lung was also adherent in the same way for about three parts of its depth: the adhering substance was of a dirty yellow-brown colour; it closely resembled curd, and it was arranged in long string-like portions, which crossed each other in many directions, thus giving the appearance of very coarse net-work: at the bottom of the chest, over the superior surface of the sternum, this substance was more than half an inch in thickness. The separation between this substance and the lungs was easily effected, but some difficulty was experienced in detaching it from the pleura costalis, and, when I did effect its removal, the pleura was far from presenting that diseased appearance which I had anticipated: it presented very little change, save for about six inches at the bottom, on both sides, and along its entire length, which parts were entirely gangrenous: the gangrenous portion did not commence abruptly; the natural colour passed by almost imperceptible gradations into the deep green. A portion of the inferior part of the thoracic surface of the diaphragm was covered with the curdy lymph, and the chest contained about six quarts of water, in which portions of lymph and pus were present. The mode by which the lungs were connected with this curdy lymph to the pleura is, I think, worthy of note. Let the reader imagine this lymph to be arranged in a trellis-like fashion, against which place the convex surface of the lungs; and, further, imagine this convex surface to adhere to the many projecting surfaces of this trellis work, and he will form a very complete idea of the mode in question: he will perceive that the connexion would not be continuous, and that spaces would necessarily exist between these numerous points or surfaces of union. The curdy lymph was not arranged with that precise regularity which trellis work usually is, neither were the spaces at all uniform with respect to their size with one another; but the above

illustration affords the best idea of what I wish the reader to clearly understand.

Organs of Circulation.—I carefully examined the following veins, viz., the jugulars, the axillaries, the submaxillaries, the anterior vena cava, the posterior vena cava, the iliacs, the mesenteric, the vena azygos, the brachial veins, the veins of the omentum, the femorals, the venæ saphenæ, and a number of others of the smaller kind, and in all of them I found their serous membrane more or less diseased. The larger veins presented evidence of the effects of intense inflammation. The posterior vena cava was in a state of gangrene in three different portions of its entire length, while in other places were large black-looking patches, some of them terminating abruptly, others passing gradually into a lighter shade of colour: the surface of the membrane was roughened throughout, and it easily separated from its subtextures. The whole of the tissues forming the omental and mesenteric veins were gangrenous, or nearly so; and all the veins I have named contained coagulated and semi-coagulated blood. The internal membrane of the aorta and the posterior aorta was mottled and shadowy, but the mottling was not so distinct as in the veins. The heart was mottled also, particularly about its base, on the right side of the organ. I next examined the membrane lining the heart: the valves of the right ventricle presented patches of a dark blue colour; the right auricle contained three large spots of the same colour; the same again with the right ventricle itself. The left auricle apparently was healthy; the left ventricle was very thickly spotted, particularly on the right side of this cavity; and about the “carneæ columnæ,” the left auriculo-ventricular valves exhibited but one patch of the dark tint. In every cavity where the mottling was observed the lining membrane in those parts peeled away with the slightest force, but where the tissue was free from spots it was just the contrary. Both auricles and ventricles contained clots of black blood and fibrine: the fibrine presented a proper degree of firmness; the dark blood was the reverse. The weight of the heart, apart from its large vessels, was exactly five pounds four ounces avoirdupois.

Blood, Pus, &c.—I examined blood with the microscope, obtained from the following vessels:—the submaxillary veins, the jugulars, the posterior vena cava, the mesenteric and the omental veins; and also from the heart, the spleen, and the liver; and the blood so examined contained quantities of pus globules*. The pus

* In order to be fully certain with respect to the pus globules, I put small portions of the blood, from many of the veins named, into watch glasses, and carefully washed such with cold distilled water. I then examined the clearer portions in succession, and was fully satisfied of their being pus. The use of

globules were the most numerous in the blood obtained from the mesenteric veins, the omental, and from the cavities of the heart. In the omentum and mesentery they appeared to be as numerous as the blood globules themselves; they were also very numerous in the portions obtained from the liver, the posterior vena cava, and the spleen. The colour of the blood itself was of a black or blue green. I also examined blood from the lungs, and in it they were very numerous also. The pus from the guttural pouches seemed to consist for the most part of the pus globules unchanged; while in those specimens of pus obtained from the other deposits the pus granules were the most numerous; a fact which I cannot account for, unless such difference was caused by the pus itself being of thinner consistence than that contained in the pouches.

Remarks.—In concluding the remarks contained in my last Contribution, the reader will most probably remember that I made some observations upon the existence of “General Phlebitis” in the horse. In these remarks I stated, that though this peculiar affection had hitherto been entirely overlooked by veterinary writers, yet that I considered it to be far from an uncommon disease. The present Contribution will be found to furnish a genuine case of this nature. It is, I believe, the only one of its kind on record. In presenting it, I have somewhat departed from the course which I marked out to pursue; but I deemed it of such importance as to merit an early publication, particularly as I had alluded so pointedly to the disease in my last. Local phlebitis, or inflammation of one of the jugular veins of the neck, from bad management in bleeding the horse, is a matter of common occurrence, and which is treated upon by most veterinary authors; but with respect to a systemic state of this disease; induced by the presence of morbid secretions in the blood, the reader will not find a single remark having the most distant reference to it in any one of them. How it is that a disease possessing the character and importance which the one in question does should hitherto have escaped the observation of every veterinary writer, is a question which I shall not, at present, stay to determine.

The case here given presents to the scientific pathologist many questions worthy of his close attention. Those which I propose to consider in the following remarks are,

the microscope with veterinary surgeons has hitherto been shamefully neglected; I cannot learn, in fact, that it has ever been used at all by them. I would strongly recommend every scientific practitioner to purchase one. The instrument I use is an achromatic one, of very excellent defining power. It was made by Mr. George Creasor, optician, of Meltham, near Huddersfield; a maker who I have great pleasure in recommending, both with respect to the *price* and the *quality* of his instruments.

- 1st. The Origin of the Pus.
- 2d. The Cause of the General Phlebitis.
- 3d. The Cause of the Enteritis.
- 4th. The Cause of the Pleuritis ; and,
- 5th. The peculiar Characters presented by the Pleuritis.

Such are the principal questions which present themselves for our consideration ; others might be enumerated, but, as they would be of a subordinate character, it is unnecessary to specify them. With reference to the Origin of the Pus : In answering this question, two or three modes of solution present themselves, which I will state seriatim, and afterwards fully consider. First, Is it to be accounted for on the supposition that, when the animal was suffering from strangles, a large quantity of pus was secreted in the submaxillary space, and that portions were absorbed from thence, and deposited where found ? or, secondly, was a small portion of pus first absorbed from the maxillary tumour, and by its presence in the veins excited a consecutive inflammation within its tissues, which terminated by the production of more pus, and of its consequent deposition ? or, thirdly, was it the product of inflammation generated within the tissues of those parts around which it was principally confined ? In resolving to which of the above queries the origin of the pus is to be ascribed, some difficulty may occur, from the fact of its being possible that any one of the three, under certain circumstances, might be sufficient to account for it. The old physicians held the opinion, that pus could be absorbed from one locality and carried to another, and there deposited ; which opinion, from the following quotation, is still admitted. Dr. Watson, in his excellent "Lectures on the Principles and Practice of Physic," when speaking of phlebitis in the human subject, page 308, vol. ii, says, "Foreign substances entering the blood, and failing to pass out of it again through the natural emunctories of the body, are liable to be stopped when they arrive at the first network of capillary vessels that lies in their course. Now, the blood circulating in the veins reaches (much of it, at least) in each of its great circuits two such great networks, the hepatic and the pulmonary. Through the pulmonary network all the blood must pass ; through the hepatic, some of it ; and it is there, in the capillary tissue of these organs, that particles of pus, and other material substances foreign to the blood and incapable of eliminating with the customary excretions, are apt to stick, or be entangled, and to excite inflammation. Some of them, however, in general pass on, and, arriving at the left side of the heart, are transmitted, with the arterial blood, to various parts of the body, there to exercise a similar deleterious influence." Thus, according to the above quotation, we perceive the possibility of pus being conveyed from

one locality of the organism and deposited in others. I cannot suppose, however, that the present case admits of any such explanation; several difficulties present themselves against it, the principal of which is, the very great amount of pus found. With respect, again, to the second supposition, a great objection to it also is, that if a small quantity of pus had been absorbed, and by its presence in the veins excited an inflammation which in the end produced more of the substance, we should unquestionably have had severe constitutional derangement much earlier; such a large quantity of matter could not have been formed in the veins, and deposited where it was between the 13th and the 19th of February inclusive, a period of little more than six days. We have, therefore, confessedly, but one mode of solving the difficulty; and it is in supposing that inflammation was originally excited in the tissues around where it was deposited. Many facts support this view. First, the well-known course which strangles denominated "irregular" is known to pursue; secondly, the thickened state of the cellular tissue in which the pus was embedded; thirdly, the thickened state of the cœcum; fourthly, the deep red blush upon the mucous membrane of the guttural pouches; fifthly, the consistence of the pus; sixthly, its want of nauseous effluvia so common to matter in abscesses of recent formation; and, seventhly, it is in perfect accordance with the course of the disease, and of the general phenomena observed. Without entering, on the present occasion, into any very complicated description of strangles, I may briefly state, that it is a disease which usually manifests itself in young horses by the appearance of a tumour within the submaxillary space, and which is attended with more or less constitutional disturbance. Its seat, in ordinary cases, appears to be the cellular tissue and lymphatic glands within the submaxillary space, in which the mucous membrane of the larynx and adjoining parts participate. It terminates by the formation and discharge of pus from this tumour; and the case then generally progresses to a speedy and favourable termination. The above, for the sake of distinction, may be named *regular strangles*. Occasionally, however, the disease pursues a different course; tumours appear in other parts; such as between the hind extremities, "in the loose ply of the skin in the flank," on the fore arms, cheeks, and quarters, the udder of the mare, &c.; hence, by combining such facts with the entire history of the present case, we are led to the conclusion that it was one of this latter character, and that such pus was the result of inflammation in the tissues around where it was found deposited.

Cause of the Phlebitis.—Having now satisfactorily decided the question as to the origin of pus, I have next to inquire into the

cause of the "phlebitis." In doing this I shall experience no difficulty; it resolves itself, in short, into a simple matter of fact: the presence of pus in the blood places the cause beyond doubt; and the appearance of the serous membranes of the veins, in all the vessels examined, as well as the state of the lining membrane of the heart, proves also the poisonous influence to have been universal. We thus learn that danger is to be apprehended from the confinement of matter in an abscess; and that, in all cases where our assistance to such is required, we should be prompt in giving it egress. Many owners of horses have a dread, which is little less than superstitious, of having free vent given to pus with the lancet; they look upon it as inflicting useless pain, and prolonging the disease. While I am treating upon the cause of the disease in this instance, ere I conclude the present section I will offer a remark upon a prominent symptom or two manifested prior to death. On the day I was called in, the animal perspired very profusely; the same again on the 16th, the 17th, and the 18th: whether this state will be found to be pathognomonic of this disease or not, is a question which time and close observation can only determine. A second fact worthy of consideration is, the irregular action evinced by the heart. This peculiarity I first observed on the 15th, and it most probably arose from the inflammation having reached the serous membrane lining its cavities.

Cause of the Enteritis and Pleuritis.—The enteritis I regard as arising from the inflammation spreading from the serous membrane of the veins of the mesentery, omentum, &c. to the mesentery itself, and, in short, to the entire tissues composing the whole of the digestive organs. The inflammation in all these various parts was of an asthenic kind; the tissues throughout were greatly softened, with here and there patches of gangrene, in connexion with scantiness of lymph, and profusion of serous exudation into the abdominal cavity. The same again with respect to the pleura. I regard the pleuritis as having its origin also from the presence of the pus; for it was clearly evident upon examination that a large quantity of this substance had been liberated into the cavity of the chest, from the collection which had been deposited around the lower extremity of the trachea. By its presence inflammation would be excited in two ways; first, by the mechanical action which would necessarily occur between it, the lungs, and the pleura costalis; and, secondly, by its poisonous properties. The disease of the pleura was not very extensive; it appeared to be almost wholly confined to its inferior region. The curd-like bands which were arranged in what I have denominated a trellis-like manner, I am inclined to believe were composed of lymph and pus, which substances were made to intimately combine, and

assume the form and arrangement described from the agitation to which the mass was subject during the respiratory movements. From being called in at so late a period, and also from the peculiarity of the physical signs, I at first believed the case to be one of extensive pneumonia, or that considerable portions of both lungs were far advanced towards a state of solidity. The character of the cough—the absence of tenderness when the sides of the chest were pressed upon—the gradual loss of the respiratory sound from the 13th to the 18th—and more especially the existence of a murmur on the 16th, closely resembling the cavernous râle (a sound to have been completely cavernous required only a little more hollowness), which on the day following was perfect, all tended to greatly strengthen such an opinion. The chief symptoms of acute inflammation of the pleura are, a cramped state of the abdominal muscles, but more particularly of the “*panniculus carnosus*” muscle—short, catching respirations—short, feeble, or superficial sounding cough—sudden disappearance of the respiratory murmur over the region affected, and more or less effusion into the cavity of the chest itself. In this case three, at least, of these symptoms were reversed; the cough was not feeble, nor superficial in its tone; the respiratory murmur did not suddenly disappear, while the cavernous râle (a sound which is regarded as pathognomonic of excavation in the lungs or dilatation of the bronchi) was in itself one of the strongest indications of the truth of such an opinion; and even now I am unable to account for the sound, unless it arose from the peculiar manner in which the lungs were connected with the trellis-like deposit. The effusion in the chest I was not aware of until after death; indeed, its existence during life is frequently very difficult to positively decide upon. Succussion of the animal is of no avail with us, and percussion, probably, is little better. There is one sound, however, which if it can be detected may in all cases be relied upon with a certainty little less, I think, than demonstrative. The sound to which I allude exactly resembles that produced by a drop of water falling into a deep well: many others might be enumerated, which if taken and considered in the aggregate would render the matter more than probable; but this one I consider as unerring, and, as I have just intimated, may be regarded as demonstrative of the fact. I have now traced this interesting case through most of its principal bearings, and I think satisfactorily shewn, that though the types of disease which it exhibited were numerous, yet, that all may fairly be considered as having their immediate origin from one common cause, viz., the presence of a morbid product within the system, caused, in the first instance, from the irregular development of strangles. Many cases of irregular strangles are recorded; but

the fact of phlebitis being excited throughout the system as consecutive to such a state, or as being under any circumstances idiopathic, is, I repeat, entirely new to the profession, and its observance with me is purely the result of the practice which I invariably follow, of examining every structure and organ in the dead animal, no matter from what cause such death may have arisen.

In conclusion, I would remark, that I cannot for a moment doubt but phlebitis, arising from such causes as the present, has previously occurred over and over again; but from sheer carelessness, the profession, up to the present moment, have remained in entire ignorance of its existence. In none of the post-mortems which are given in *THE VETERINARIAN* for the last eight years (earlier volumes I have not), nor in the *Veterinary Record* from its commencement, can I find that the veins are even mentioned at all. Let veterinary surgeons, then, take the hint, and for the future be more precise in their post-mortems; let them carefully examine every structure and organ, and ere long a flood of light will be thrown upon many diseases which are at present either not recognised, or but very imperfectly understood.

Errata.—In p. 183, line 11, for “croaking,” read *cracking*.
The Note in p. 189 belongs to p. 191.

EXPERIMENTS ON THE EXPANSION OF THE HORSE'S FOOT.

Sir,

Hounslow, April 7, 1849.

Having read with much pleasure, in the last Number of *THE VETERINARIAN*, a review on a pamphlet, by Mr. Shaw, on the Expansion of the Horse's Foot, I thought that the following paper might possess some interest.

The experiments were carried on in the presence, and with the assistance, of Mr. Boughton, Veterinary Surgeon of Hounslow, for whose suggestions and assistance I feel much indebted. I can safely say, that they were entered into without a desire to support any particular opinion, and that, so far as we possibly could, we convinced ourselves of their correctness.

I have the honour to be,

Sir,

Your obedient servant,

JOHN W. GLOAG.

W. Percivall, Esq., Editor of
“*The Veterinarian*.”

THE first series of Experiments were performed with a shoe, or flat piece of iron, applied evenly to the foot *as far back as the heels*; the idea being to find out what was the action of the foot with a shoe applied in the common way.

1st Experiment.

The subject was a three-year-old colt, which had never been shod.

The width of the foot at the quarters was exactly measured when the foot was on the ground, whilst the other leg was held up. The horse stood unshod upon a flat piece of board, with paper pasted on it, and the circumference of the hoof was most carefully marked upon it with a pencil, and accurately measured by means of fine calipers, and the dimensions afterwards compared with that of the foot when in the air.

Result.—I could not detect any perceptible difference.

Observations.—In corroboration of this I may add, that, if we paint that part of a shoe which projects slightly beyond the line of crust at the quarters, this paint will not rub off when the horse is in action, but will maintain the strict line; and, also, when we take off horses' shoes daily in the forge, we find the line of rust most minutely marked, which separated that part of the shoe on which the foot rested (and which is often brightened) from that part which projected beyond the hoof; also, when we employ a clip at the side of the foot, we often see a brightening of the shoe at the inside of the clip where lateral motion could not take place, shewing that the brightening of the shoe is not caused by lateral expansion. It is no proof in favour of the expansion of the foot that in many horses we can pull the heels of the foot slightly asunder with the hands; for if Nature had not provided means to counteract this, and if superincumbent weight had any thing like a proportional effect to the power of the hands, there would be a most extraordinary and visible lateral expansion at the heels at every step, which decidedly is not the case.

2d Experiment.

Subject a heavy cart-horse, with a good foot, moderately concave.

A well-seated shoe was made, and to that part of its under-surface which would be opposite to the point of the frog, a flat piece of iron was welded across the shoe. The shoe was then applied, and laid

even upon the heels, but only fastened by five nails. The surface of the frog and sole opposite this bar was then well oiled, and the space between the iron bar and the toe of the frog and the sole was completely plugged up with wax, pounded up into a soft consistence with tallow and turpentine, so that it would bear the slightest impress of the finger. The edges of the prepared wax were then pared clean and even with a knife, and the horse was now made to trot.

Result.—There was a perceptible crack in the wax, about one inch behind the point of the toe of the frog, opposite to the navicular bone: the separation or crack appeared to be about the thickness of the back of the blade of a penknife. I repeated this experiment several times with the same result.

3d Experiment.

Subject, the same.

To the other fore foot a shoe was applied with a good seating, laid flat upon the heels, but only fastened by a few nails. This shoe had a flat piece of iron welded to its under surface from heel to heel: the intervening space between this iron bar and the frog, as in the last experiment, was filled up with prepared wax, the frog being first oiled.

Result.—There was no perceptible crack or separation in the wax after the horse had been trotted: I was much surprised at this, and repeated the experiment several times, with the same result.

Observation.—I always had an idea that the frog descended slightly, under any circumstances of ordinary shoeing: in fact, I considered it as a sort of truism up to this time; for I had long known by observation, that, when a horse's heels were sprung, the posterior parts of the foot perceptibly descended.

4th Experiment.

Subject, a heavy cart-horse, with a good foot, moderately concave.

A common shoe, rather wide at the heels and quarters, was applied, and laid evenly upon the heels, and only fastened by a few nails. The quarters of the foot were carefully oiled, and some prepared wax was then pressed upon that part of the shoe projecting beyond the foot at the quarters, and also against the side of the foot: the horse was now made to trot.

Result.—After many trials, I could not detect that the slightest movement or impression had been produced in the wax.

5th Experiment.

Subject, a heavy riding-horse, with a crack in the front of the hoof, extending from the coronet downwards to the bottom of the hoof. The horse was very lame.

To this horse a shoe was applied with a flat piece of thin iron welded to each quarter of the shoe, and bent to fit close to the hoof. Near to where these two pieces of iron should have met at the centre of the hoof, they were cut off and bent, and a screw and tap adapted so as to draw these ends together and bind the hoof. The screw was now turned until it completely brought the ends of the crack together.

Result.—The horse was immediately much relieved of his lameness, and he continued to wear a similar shoe for months without inconvenience ; and from the manner it was fastened to the foot, I should consider it physically impossible for lateral expansion to have taken place at the lower circumference of the foot.

Observation.—This is, however, nothing more than the everyday occurrence of tying up a horse's foot for sandcrack, when I do not see how lateral expansion could go on. Again, how often are cart-horses, from defective horn or other causes, shod with clips and counter-clips in all directions, without causing any inconvenience !

6th Experiment.

The foot of a horse recently killed was procured : it was that of a cart-horse, and was a good foot, moderately concave. This hoof retained its natural contents, with the attachments of skin, &c., and was cut off at the small pastern joint.

A portion of hoof was completely taken out of one quarter (in the direction of the fibres), an inch and a half high by one inch broad, with a fine trephining saw, leaving the laminae exposed, and the heel of the coffin-bone could be felt. A perfectly flat plate of iron was laid on the under surface of the foot (the frog being above the level of the heels), and to the upper articulatory surface of the small pastern a piece of wood was accurately fitted, having a flat upper surface, for the purpose of being received in a vice. The foot thus prepared was put into a very powerful smith's vice, the wood and the flat plate of iron being the opposing surfaces, and pressure was applied, whilst at the same time my finger was held in contact with the exposed heel of the coffin-bone, as also against the side of the hoof.

Result.—Although great pressure was applied, I could not detect any descent of the heels of the coffin-bone, nor any motion at the base of the frog. Although I failed to produce any motion

in this case, I feel convinced there must be sufficient motion, by means of the elastic periosteal covering of the coffin-bone, to take off the jar from the foot, although this action may be very limited; yet if this periosteal covering possesses the slightest elasticity, which property our talented author, Mr. Percivall, has ascribed to it, and I believe with great justice, there must be a slight spring in every direction.

7th Experiment.

Another foot, of the same character as in the preceding case, was fitted with the piece of wood to the articulatory surface of the small pastern, and a common seated shoe, laid even to the heels, nailed on. The foot thus prepared was put into the vice, the shoe and the piece of wood being the opposing surfaces. Pressure was applied, and the soles and frog and every other part most carefully watched.

Result.—The frog, about one inch behind the toe, was the first point that yielded, and this it seemed to do continuously with the pressure employed, until it sank about a quarter of an inch; but further pressure did not seem to increase the descent. I should consider that there must have been at times a pressure of more than two tons. The sole did not seem in this case to alter in any way, nor could I detect any difference whatever at the base of the frog, although I most carefully noticed it, and I laid a flat piece of iron across the heels of the shoe for the purpose of watching if there was any descent, but could not see any. This experiment may be compared with Nos. 2 and 3. As far as my experience goes, the sole will bear a certain amount of pressure, or rather support, at particular parts, as at the toe, with advantage if left strong; and I do not think that there is any descent of the sole in a healthy moderately concave foot, except what appertains to it in connexion with the slight yielding backwards and downwards of the whole foot in a state of nature, or under particular states of shoeing. None of these observations apply to horses with very flat or pumiced feet.

The sole appears to be formed in flakes lying one upon another, with a powdery substance between them; they are something like the springs of a carriage. When the sole is thin, the least pressure is felt; but when the sole is thick, the pressure becomes deadened and lost over the numerous plates.

8th Experiment,

On the dead fore foot of a cart-horse, cut off at the small pastern joint.

This foot was moderately concave, and a fair foot in every way for the experiment.

The width of the foot was most carefully measured by fine calipers, an even surface being first made on each side of the quarters by a file, and a directing point made for future measurement. To prevent any mistake, the calipers were then fixed by the screw, and the exact dimensions transferred to paper. A flat plate of iron was then laid against the under part of the foot, and a piece of wood fitted to the articulatory surface of the small pastern, as in the preceding experiments, and the foot was put into the vice, the flat iron and the piece of wood being the opposing points. Very powerful pressure was applied, and whilst under this pressure, which was as great as, I fancied, the foot could sustain, I measured it at the quarters, to see if it were expanded, and I thought that the foot, whilst in the vice, appeared to be wider by the thickness of a common playing-card.

Observation.—The pressure employed only stopped short of destruction of the foot; and as so little result was obtained, I think it only fair to conclude that, under any common circumstances, we may consider it to be inappreciable.

9th Experiment,

On the dead fore foot of a cart-horse,—sole moderately concave.

A section of the anterior part of the hoof was made, so as to include a small portion of the toe of the coffin-bone, with a view of ascertaining whether the coffin-bone advanced or receded or descended through pressure. In this case the hoof was used which had the piece taken out at the quarter, and both points were examined; namely, the toe and heel of the coffin-bone. A flat plate of iron laid even on the foot to the heels was used, and the piece of wood fitted to the coronet bone as before, and pressure applied in a large vice at these opposing surfaces.

Result.—I could not detect any advance, or descent, or receding, of the toe of the coffin-bone, or of its heels, by any pressure short of destruction of the foot; and what astonished me most was, that whilst the contents of the hoof were under this enormous pressure, I could with the greatest ease, by the force of my finger and thumb to the sole, cause a yielding of the sole and a squirting out of blood from between the horny and sensible sole, evidently shewing that, although this great pressure was employed, the sensible sole had not descended upon the horny sole.

Observation.—This experiment is, I consider, a strong proof of the non-descent of the horny sole, except inasmuch as it may do so together with the slight yielding backwards of the whole foot,

under other circumstances, as when the heels are sprung, or in the unshod state. The laminæ, with their immensely extended circumference in a healthy foot, appear to be fully able to sustain the weight of the animal, which is readily shewn by very many of these experiments, and by the old operation of drawing a horse's sole, when the whole weight of the animal is readily sustained by them. The laminæ are nearly, or perhaps altogether, inelastic in their longitudinal direction; but they appear to be elastic in the transverse direction, so as to admit of yielding back on one another. If the sole descends in the manner usually explained, I cannot see how circulation is to go on during all the time the animal is standing, although Nature has beautifully provided against the possibility of obstruction of the blood in its course by the arteries transversing the coffin-bone (which is the most porous in the body), by the anastomoses of the arteries, by the circulus arteriosus, and the veins possessing no valves; but all these beautiful provisions of Nature I am inclined to look upon as expedients against accidental circumstances, and not as the means whereby circulation is carried on. The conformation of the foot, which is wider below than above, renders it difficult, if not impossible, for expansion to take place at its ground surface; thus, in laminitis we find the foot slip through, but still not expanded at the quarters. Again, how often are the heaviest cart-horses obliged to be shod with clips and counter-clips all round, and still with no impediment to the action of the foot! Mr. Goodwin, Veterinary Surgeon to the Queen, has a most interesting specimen in his museum: it is the foot of a carriage horse which worked always perfectly sound up to the day of his death. This horse had a seedy toe, and there existed a swelling on the inside of the hoof, with a corresponding depression in the coffin-bone, and the laminæ were not diseased. Now, how could descent of the coffin-bone take place in this case, except under circumstances of extraordinary pain and lameness? When we use a bar shoe, the heels can descend through the elasticity of the frog; and how many horses can travel only with a bar shoe! My impression and conviction is, that horses with good feet, moderately concave, will bear a certain amount of pressure at the anterior part of the sole with advantage, and that a shoe with a flat upper surface is often highly advantageous. I have also seen many horses with flat or pumiced feet greatly improved by a flat bearing or support on the sole, thus relieving the laminæ: these horses will, perhaps, travel badly at first, but gradually improve as the horn of the sole grows thick and strong; while some horses, again, under particular states of the feet, are immediately improved by the bearing of the shoe partly on the sole, thus relieving the laminæ. Uneven pressure on the sole will cause lameness immediately, as

also any pressure on the sole when it is thin. Many heavy horses' feet shelve out under their great weight, and the sole may be forced unevenly on the shoe and cause lameness; or when the shoe is put on, owing to this shelving of the hoof, the shoe may be forced unevenly, or in a particular point, upon the thinned sole, and, forcing it up, cause pain and lameness. This may be supposed to be descent of the sole; but I do not consider it to be so, although in flat or puniced feet, as a matter of course, the sole does descend; but even in these cases I have seen great benefit from a support or bearing on the sole, although at first producing inconvenience. I may also remark, if it were the nature of the foot to expand at its lower circumference at the quarters at each step, how comes it that any sudden attempts by shoeing to cause this action of the foot will produce the greatest inconvenience to the animal; any unnatural forcing out of the quarters giving quite as much pain as pressing them inwards?

10th Experiment,

On the dead fore foot of a cart-horse.

The foot was of good quality, and moderately concave. The horny sole was entirely removed, and a shoe laid even to the heels applied; and the piece of wood fitted to the coronet-bone as before, and pressure applied in a powerful vice at the opposing surfaces of the shoe and the wood, with a view particularly of watching the sole whilst under pressure. Candles were held in various directions, and the handle of the vice turned backwards and forwards.

Result.—I could not detect any descent whatever of the sole; but the frog evidently descended opposite to the navicular bone, though it did not alter in any way at its base. The descent of the frog opposite to the navicular bone appeared to be, at the greatest, a quarter of an inch, beyond which it did not seem to descend.

11th Experiment.

The same foot used as in the last case, and it was sawn through in the direction of the cleft of the frog, making a complete section, thus exposing the internal parts. A shoe was nailed to the half of the foot, which was then put into a vice, and the coronet-bone and the shoe made the opposing surfaces. On pressure being applied, there was a beautiful elasticity of parts visible; the coronet-bone first pressed on the coffin-bone, and as the former yielded backwards and downwards it pressed on the navicular-bone, which immediately descended, and with it the horny frog opposite to the navicular-bone. The elastic tissue round the coronet swelled out, and the base of the heel felt firm and rigid, as though distended.

The descent of the navicular-bone was, however, completely regulated, for its articulating surface seemed to form only a portion of the segment of a circle, of which it was the highest point; and when it was forced downwards by the descent of the coronet-bone, it could only be to that point where the two segments formed by the articulation of the coffin and navicular-bones made the articulatory surface of the coffin joint, and beyond this it could not descend. This seemed to be, at the utmost, about a quarter of an inch under the strongest pressure, although, in the experiment with the living cart-horse, the frog opposite to the navicular bone only descended to the thickness of the back of the blade of a penknife. The coffin-bone seemed perfectly fixed, as also the sole and the base of the frog.

12th Experiment.

A common well-seated shoe, very long at the heels, was applied and fitted accurately to the fore foot of a carriage-horse.

The angular space between the projecting heel of the shoe and the foot to the bulbs of the heels was filled up very carefully with prepared wax, whilst the horse's foot was held up, and an oiled knife was then passed between the heel of the shoe and the wax, leaving a thin space. The idea was, if the descent of the foot were downwards and backwards, this space, on pressure being applied, would immediately close. The horse was now made to throw all his weight on this foot.

Result.—The crack in the wax did not close, the wax not having descended even the thickness of the blade of a knife.

13th Experiment,

On the dead fore foot of a cart-horse, moderately concave, and cut off at the small coronet-bone, and shod exactly as in the last experiment. A piece of wood was fitted to the coronet-bone, having a flat upper surface. The angular space at the heels was filled up, as in the last experiment, with prepared wax, and the oiled knife passed through the under surface of the wax close to the shoe, as before, leaving a thin slit. The foot thus prepared was put into a powerful vice, and pressure applied, the piece of wood and the shoe being the opposing surfaces.

Result.—The crack did not close. Whilst the pressure was being applied I could feel a sensible expansion at all the upper parts of the foot around the coronet, but principally at the upper and back parts, towards the heels, which swelled out, and became firm and rigid, and the lateral cartilages evidently expanded.

Observation.—The results of this experiment appear most striking; but still, when we come to reason upon them, how can it be otherwise? The shoe is laid evenly upon the foot up to the heels: unless the iron gives way from its attachments, or the horn at the quarters becomes crumbled under the pressure, how can descent at the heels take place, as the heels of the foot themselves act as perfect wedges to prevent it?

[To be continued.]

SMALL POX IN PIGS.

By Mr. BOUGHTON, V.S., Hounslow.

Sir,—PERHAPS I ought to apologise for troubling you with this; but the anxiety shewn by you to extend, as far as possible, any information likely to be useful, has emboldened me to hope you may find a spare corner for it, and consider it not unworthy the attention of the veterinary profession, although relating to an animal that one of our veterinary writers has said, “he would rather have to doctor the devil than doctor a pig;” but it is not so much the animal as the disease I have found him suffering from, that has induced me to consider it may not be uninteresting to many of your readers, particularly as a considerable portion of the alarm created by the breaking out of variola among sheep still exists in the minds of many flock-masters.

Rather more than two months since I was called in to see some pigs at Hanworth Park, the seat of Henry Perkins, Esq., and was told they were very dull and would not eat, and were lame. I very naturally expected to find them suffering from eczema epizootica, which has been very prevalent all around here in cattle, sheep, and pigs; but there were no symptoms of that about them. They were very dull and little inclined to move, and were evidently suffering from fever. They drank very freely, but were quite indifferent about taking their ordinary food, preferring cold thin food to any thing warm and thick. They continued much the same for about a week or ten days, except that the fever kept increasing, and then they began to shew symptoms of swelling in their legs; their heads also became swollen, and an eruption was observed making its appearance all over the bodies of those first taken; not so easily seen upon the dark parts of their bodies, but very readily felt, and perfectly visible upon the lighter parts of their skins. It resembled in every particular the distinct form of *variola* in the sheep; and as the eruption progressed so did every peculiarity be-

come more striking. The pustules were observed gradually swelling around their edges, leaving the well-known peculiar flatness, and oftentimes depression, of their centres. And a very great portion of those under the belly and between the thighs shewed the circle of *areola* so peculiarly characteristic of *variola* generally: their tops or heads forming a hard brown scale, like as in the sheep or the human being, as they "died away" (as it is called).

There were eight pigs, but only five of them had the disease, although they were not separated. I very much regretted Mr. Perkins was from home all the while they were ill, or I am quite sure he would have allowed me to try what effect inoculation would have had on those in the same sty that had not taken the disease. They all gradually recovered, and are now doing as well as possible.

The next appearance of the disease,—and it was not long afterwards,—was in two lean pigs, at Messrs. Curtis and Harvey's Powder Mills, about a mile and half or two miles distant from the habitation of the former ones. They had been purchased by the clerk residing on the premises, and soon after he got them they fell off in their appetite, and so continued for three weeks. They then broke out with *variola*. Their heads and legs were swollen exactly like the others, discharging the same from the eyes and nose; and their heads became so stopped up by the thickening of the membrane lining of the nasal cavity as for the breath to be scarcely admissible. They hung their heads down exactly as the sheep does in the same disease. In their feeding they always preferred what was cold, and poor food (such as bran and water), to what was good and made warm for them. They both being very poor before they were attacked by the disease, caused them to suffer much from weakness. One of them died about ten days after the first appearance of the eruption; the other recovered very slowly from the attack.

The next appearance of the disease was on the farm of a widow lady at Lampton, a Mrs. Rogers, residing about two miles from the other cases, in a direct line. At this house but three were attacked with the disease, although there were many more pigs in the yard. The disease passed through all its stages in the same manner as in the others, and as it would in the sheep or in the human being. These cases recovered, and did quite well.

The pustules were as large as any I have observed in any of the sheep I have seen; but the disease did not in any one of them assume the confluent form. Neither could it be very contagious or infectious, or the other pigs at Mrs. Rogers' farm must have taken it. And although Mr. Perkins' pigs were kept shut up in their own sty, yet the others could get to the door; and we all know if one pig gets to another's door, he will be smelling under it.

Had there been any diseased sheep any where near us, I should have been inclined to believe they had caught it; but the nearest sheep to us that had suffered from variola were then perfectly well, and had been so a long while; and they were, at least, seven miles off in a direct line (viz. at Mr. John Gurney's, at Northolt), nor had there been the least communication from any one of the places to either of the others. Had there been any intercourse, I could have believed the disease to have remained in the system of the pig quite as long as in the sheep. Two friends of mine, Messrs. White, of the Isle of Thanet, tell me they have a very good proof of the time the disease may remain in the sheep; for in the evening they turned out the first two tegs they discovered ailing, from one of their flocks into an orchard, where two ewes were lying with their lambs, and the next morning, on finding an eruption on those drafted, took the ewes away, and turned them and their lambs among twenty other ewes with their lambs. From the time they were turned out until they broke out with the disease (variola) was more than seven weeks, and they were the first of the ewes that had the disease, and they both died; but their lambs escaped it. And though they have lost several others of their ewes, all the lambs that were sucking escaped the disease.

Mrs. Rogers' pigs had very little appetite, but would drink freely. I gave them some fever medicine, and ordered them to have light food and plenty of clean cold water, so placed that they could get at it when they liked. When I next saw them I found two with their heads and their legs swollen, and the legs very painful at the joints, on being very lightly squeezed in the hand. On the third day afterwards they broke out with variola, the first symptoms of eruption shewing themselves inside the thighs, on the belly, and under the throat, and thence gradually spreading over the whole body; they being very easily felt on the dark part of the skin, in places where they could not so readily be seen. They gradually increased in size, and formed a vesicle on the top.

I remain, Sir,

Your most obedient humble servant.

To the Editor of THE VETERINARIAN.



CASES OF FINDING EXTRANEIOUS BODIES IN THE COW, DOG, AND PIG.

By GEORGE MURRAY, *Veterinary Student.*

CASE I.—A BRASS PIN DISCOVERED IN A COW'S HEART.

THE following is the case referred to in my letter of the 7th instant:—

On the 15th of January last I went, by the request of Mr. W. Taylor, of Cheriton, to see a four-year-old cow, belonging to him, that was in an unthriving condition, and had been refusing her food for a month or six weeks previous. The following symptoms presented themselves on my arrival at the house in which the cow was tied:—

She was continually making a moaning noise, as if in considerable pain. The roots of her horns were unnaturally hot; muzzle rather dry; visible mucous membranes slightly injected; breathing very much oppressed. The jugular and all the other superficial veins were enormously distended; the pulse imperceptible behind the elbow and at the jaw; fæces small in quantity, but natural as to consistence. By auscultation I could not detect the least respiratory murmur in the lungs, from which, and the breathing, I was inclined to think there might be water in the cavity of the chest. She seemed more inclined to lie down than to be in a standing posture; and when down appeared pretty easy, but still made the grunting noise in breathing.

I at once determined on bleeding her; and so full and hard were the jugular veins, that I bled her with perfect ease without either cording or otherwise compressing them. The instant I struck the fleam the blood spirted out as if I had spiled a cask of porter that had been lying in the sun, and continued running in this manner until she began to grow faint, which she did after I had abstracted about five quarts; and even then I was obliged to put two pins through the orifice to restrain the blood, so great was the force with which it was expelled. I could feel the beat of the heart after this, but not distinctly enough to take the pulse. I next gave her a drench, consisting of mag. sulph. lbj, sulphur. lbss, Zingib. rad. ziiij, and left her for the night, with directions that if she got worse to let me know.

The distance being six miles from Penrice to Cheriton, I heard no more of her until the 22d, when Mr. Taylor came here again. He said, the drench never opened her bowels; but that she ate a little better after what had been done to her; but had now fallen off in her appetite more than ever. I went back with Mr. Taylor, and

found her precisely the same as on my first visit. I bled her again to the amount of four quarts, and gave her the following in a drench:—Mag. sulph. ℥xvj, sulphur. lbss, aloes barb. ℥iiij, zingib. rad. ℥iiij. M. I also told them to drench her four or five times a day with gruel. I may also add, that in this stage of the proceeding I was completely non-plused, never having seen or heard of a similar case.

25th.—Mr. Taylor came to me again, and told me, the dewlap was very much swollen; he struck a fleam into it, and a great quantity of water ran out. The last physic merely relaxed her bowels, as fresh grass would. She would not eat any thing. No treatment.

On the 26th I went to see her. She, however, had died the night before. Mr. Taylor told me that she appeared to die as she stood, for she fell and never moved afterwards. Unfortunately, they had buried her before I got there, consequently I saw nothing but the heart, which was kept back; and this, to my surprise, was completely enveloped in a kind of ossific matter, more particularly the ventricles. Some of this ossific matter, if it can be called such, was about three-quarters of an inch in thickness. It had a rough granulated appearance, and was so brittle that I could crumble it to pieces between my thumb and finger. In the parietes of the right ventricle there was found a brass pin three inches in length. There was about half an inch of it outside the pericardium, the remaining part being in the middle and anterior part of the parietes of the ventricle, where it had caused an abscess to form, about two and a half inches in length, and an inch wide. The interior of the heart appeared healthy.

The pin had no head to it, and its direction in the heart was obliquely from above downwards and backwards towards the apex. The chest, they told me, was quite full of water, and from their description very similar to hydro-thorax in the horse. The lungs also appeared healthy; but there were several patches of mortification upon different parts of the thorax. There was also a dark spot on the inferior part of the esophagus immediately above the pin.

These are all the particulars I am able to give concerning this remarkable case.

CASE II.—A THORN FOUND IN A DOG'S SIDE.

The animal had swallowed the prickle of a black thorn, about an inch and three-quarters long, in a piece of tripe. As I met with this case merely by chance, I am unable to give much of the particulars. The dog, when I saw him, appeared to be in great pain:

he refused his food, and was constantly lying down. On examining him, I found what appeared to me to be an abscess on the left side, between the angles of the 11th and 12th ribs, about the size of half of a hen's egg. On pressing it, I was surprised to find something with a sharp point run into my finger. I immediately caught hold of it with my nails, and pulled it out, which caused the dog to give a sharp scream: it was the prickle above-mentioned. The owner of the dog now perfectly recollected giving the tripe with the prickle in it to him about a fortnight before. The dog being a worthless animal, nothing was done to him, and he died the following day. It is my opinion he would have lived had the prickle been left to work its way out of its own accord.

CASE III.—A NEEDLE FOUND BETWEEN THE KIDNEYS OF A FAT PIG.

A large fat pig, belonging to a labouring man, was taken ill on a Sunday evening. The animal was lying down, and appeared in great pain, making a moaning noise in breathing, and refusing his food. The owner wanted to have him slaughtered; but the butcher thinking such a transaction on a Sunday evening would spoil the sale of the bacon, proposed leaving him till the following morning, providing he did not get worse. His advice was acted on, and on Monday morning the pig was killed. All the abdominal and thoracic viscera appeared healthy, except a dark-looking spot in the adipose tissue between the kidneys. On the butcher going to wash it away, he ran his hand against the point of a needle. On taking it out, it proved to be a darning needle, which the man's wife had lost in the pig's meat about a fortnight before. The needle was three inches and a half in length, and was pointing backwards. Up to the Sunday he was taken ill the pig had been feeding well, and retained, apparently, his usual health. He weighed 37 stone of 14lb.

CASES OF RUPTURED STOMACH AND INTROSUSCEPTION IN HORSES.

By JAMES TURNER, *M.R.C.V.S., Montreal, Canada.*

To the Editor of "The Veterinarian."

Sir,—I HAVE much pleasure in forwarding you the particulars of a singular case of ruptured stomach in the horse, which came under my notice a short time since, together with the accompanying one of intus or intro-susception, which, although they

add nothing new to our stock of pathology, may, nevertheless, be deemed worthy of being placed on record. I can assure you I am very sorry, and a good deal surprised, to find that there has been so much opposition on the part of the schools to our Charter, and that they have been endeavouring, after so much expense, to say nothing of the trouble taken by our worthy President, Mr Thomas Turner, to upset the same by petitioning for a fresh one, from selfish motives, to blast the prospects of the profession generally.

I trust the rights and privileges bestowed upon us as a professional body by our Charter, which has given such general satisfaction, will remain undisturbed; and that THE VETERINARIAN may long live to support and defend the same, is the sincere wish of

Yours truly,

JAMES TURNER.

Montreal, Lower Canada,
January 16th, 1849.

RUPTURED STOMACH IN THE HORSE.

On the 23d of November last, I was called out of bed early in the morning to see a chestnut mare, the property of Mr. P. W. Dease, of St Catherine's. The mare was an old patient of mine, having on the 2d June 1847 taken a dead foal from her by means of embryotomy, and on the 7th August 1848 had her again under treatment for spasmodic colic. In both cases she soon recovered, and did well. The servant reported, she had taken another bad attack of colic, and assured me she had been frequently rolling and tumbling about during the night, in the same manner as before. Believing his statement to be perfectly correct, I gave him an antispasmodic drench along with him, to give her immediately, and told him I would follow as soon as I got dressed, and do what I thought might be further required. I arrived just as he had finished giving the drench, when she had fallen down, and was lying in a very awkward position. I got her up with some trouble, but found her so feeble that she was unable to stand upon her legs. Her pulse was then imperceptible—breathing loud and hurried—all her extremities chilly, though not excessively cold—the conjunctival membranes red and inflamed—the whole countenance shewing much suffering and distress—mouth cold and dry, with a general tremor of the whole muscular system, and the surface of the body wet with cold sweat, as if under the most intense rigor of pain and suffering. At first sight I was convinced it was neither a case of colic nor inflamed bowels. Though I once saw her point distinctly to her side, which shewed plainly the seat of pain and disease; it

was directed closer to the shoulder than is commonly the case when colic is the cause of suffering. The stable being both dark and confined, I got her moved the length of the door, to see her better. I then observed, she was a good deal swollen, and believed that tympanitis had more to do with the case than spasmodic colic. I next tried to get a few quarts of blood from her, thinking it might possibly render some relief; but not a vein could be made to rise. The circulation upon the surface by this time appeared to have ceased, and I could not get more than about a quart, which was but of little use in any case where blood-letting might be beneficial. In the course of a few minutes she staggered and fell, to rise no more, for she died very shortly afterwards. The whole case was yet involved in the same mystery as at the beginning.

The mare had long been in the very highest condition, and appeared in the enjoyment of the best of health. She had been fed the evening before at five o'clock, and went to Montreal, about three miles, with a light gig, to bring home her master, who returned with her about eight o'clock, without ever requiring to make the slightest use of his whip. She was put into the stable, cleaned, and fed, without noticing that any thing was wrong, till it was observed she refused either to eat or drink. She soon became very uneasy, rising and lying down again every few minutes during the whole night; moaning piteously, and discharging a vast quantity of saliva or mucus from her mouth whenever she stood up.

A post-mortem examination soon brought the whole secret to light, by shewing that the mare's death was caused by a ruptured stomach. For as soon as the abdominal muscles and fascia were divided, the contents of that viscus were found scattered over all the other viscera of the abdomen, and the rupture extended from the margin of the cuticular coat towards the right or small end, to within a few inches of the pylorus, measuring eighteen inches in length along the large curvature. The peritoneal or outer coat appears first to have given way, as it had shrunk at least two inches on each side of the lesion, which was inflamed, filled with extravasated blood, with a quantity coagulated, and adhering to the surface and edges of the rupture.

Sundry wounds and abrasions were found upon the cuticular surface, one of which was not less than four inches long; others were like punctures made with the point of a lancet. The whole villous portion of the stomach was in a state of inflammation, and looked as if it had been corroded and eaten in sundry places. The cuts and abrasions upon the cuticular coat led me to think that the mare might have swallowed a piece of broken bottle or some such sharp substance, which had rolled and moved about in the stomach till it had injured the internal coats in the manner described. To

see if I could discover any thing in the stomach or intestinal canal to justify my opinion, I cut open the whole canal from the beginning of the duodenum to the termination of the colon in the rectum, without finding any thing to cause such injury. However, failing in one object, I discovered another, which ought not to be overlooked. The whole course of the small intestines, from the stomach to their termination in the cœcum, were perfectly empty; but I found their mucous coats much thickened, without discolouration, and containing sundry pints of white matter, something like flour boiled with milk, which emitted a very offensive smell. It was a diseased mucous secretion, and must have been going on for some time. All the other viscera of the abdomen and chest were perfectly healthy; but a few gallons of serous fluid, slightly tinged with blood, were found in the first-mentioned cavity.

In conclusion, I may remark, that, from the evidently diseased state of the mare's stomach, &c. the process of digestion must have been tardy and defective, even though she appeared fat and in good health. From having been fed the previous evening, and driven to town immediately afterwards with a full stomach, fermentation most probably took place, and, consequently, gaseous distention of the stomach, &c. Though I have not been able to assure myself that the first symptoms of this case were those of tympanitis, yet I am of opinion that if proper assistance had been called in time, this would not have been found to have been the case, and probably the mare would have been saved. For it is my belief, the stomach was ruptured before I saw her that morning. And from the violent manner in which, I was informed, she tossed about, and threw herself down and rolled on the ground, it was more than sufficient to have burst the parietes of the stomach while in a state of distention, and caused her death by that means rather than by distention alone, from the accumulation of either food or gas in the stomach.

I have only met with two other cases of ruptured stomach during the whole course of my practice. One case was caused by over gorging the stomach with raw potatoes; the other from eating hot grains, and drinking wash at a distillery. But the symptoms in those cases had nothing in common with the present one, except the imperceptible pulse, the general tremor, and cold sweat.

INTROSUSCEPTION IN THE HORSE.

The case referred to took place on the 18th May last: the subject was a chestnut gelding, five years old, the property of a gentleman in this city. The horse had been under treatment twelve or fourteen days for strangles, or what is termed here by the French, "*La Gourme*." It was a case of the very mildest form, and with-

out almost any trouble soon became matured, was opened, and discharged a healthy pus; and the case went on most satisfactorily till the 16th of May, when I was sent for to see the horse. I found him stiff, shifting, and very uneasy upon his legs; but as he was feeding as usual, I supposed it might be from confinement, the weather not having permitted him to be walked out for sundry days. I advised his being exercised gently for a short time, which was done, and when he returned to his stable he looked much better, and fed well. I called to see him again in the evening about eight o'clock; he was then lying down, but started up and began to eat hay. On closer examination, I found him again stiff in his legs, and on applying my hand to the inside of his thighs, I found the muscles hard and cramped. The pulse and breathing at this time were not in the least affected. After ordering his thighs and legs to be well rubbed, I gave him an antispasmodic drench; after which he appeared much better, and began to eat a little bran mash which was before him. I left him for the night, trusting to find him all right in the morning. In this, however, I was disappointed; for the person who took charge of him called me very early to see him, saying he had been kicking and rolling about the greatest part of the night. I saw him immediately, and found him exactly as had been described by the servant. On getting him upon his feet, his pulse and other symptoms at once satisfied me the horse was labouring under a well-marked case of spasmodic colic. I had him removed from his stable, which was hot and confined, to my own premises, which were close at hand, where I turned him into a well-ventilated loose box, and commenced the usual treatment for spasmodic colic, by giving him tincture of opium and spirit of nitric æther; bled, blistered his chest and belly, and sides as far back as the extremities of the false ribs (which acted well), and threw up clysters, without any mitigation of the animal's sufferings. I repeated the drenches and clysters, but without the least benefit being produced; for his ears and extremities were getting very cold, the pulse sinking fast, and the whole symptoms indicative of spasmodic colic had now disappeared, and he stood quiet, though it was evident he was becoming weaker and feebler upon his legs; his whole countenance manifested the most intense suffering and distress, which shewed that all my efforts to save him had been of no avail, for he was now fast in the grasp of the last enemy. About two o'clock next morning he dropped, and died with a violent convulsive struggle, thirty hours after the first appearance of the foregoing symptoms. In the course of the day I made a post-mortem examination in the presence of the owner and sundry of his friends, two of whom were medical gentlemen of the first standing in their profession.

The whole secret and mystery of the case was now revealed, by

finding that no less than sixteen feet four inches of the ileum had become inverted. The peristaltic motion of the ileum must have been reversed in this case; for the posterior portion had first been contracted, and forced into the anterior, which must have been much less contracted, or very probably not contracted at all. Much discolouration had taken place; congestion and sundry dark patches were met with among the other portions of the abdominal viscera, and two or three gallons of serous fluid were effused into the peritoneal cavity.

* * * If Mr. Turner would, when he has an hour to spare, transmit us some accounts of the horses or dogs or cattle of Canada, he would be conferring a great favour upon us.—ED. VET.

REMARKS ON THE CHARTER AND BY-LAWS.

By "A Country Practitioner."

To the Editor of "The Veterinarian."

Sir,—HAVING read a letter in the March number of THE VETERINARIAN, from Mr. Cox, on the Charter and By-laws, I am induced to make a few remarks on the same. I think with Mr. Cox as regards the time of studying at the Colleges. It is my opinion, that there ought to be a material difference made in the period of study between the man who has served an apprenticeship and has been in practice for some time previous to his entry at either of the schools, and him who has not seen any practice before his entry there; such a person as Mr. Cox speaks of, as coming from behind the counter. Such persons are most decidedly not fit to embark in the profession after attending two sessional years, even though they obtain diplomas. Some there are who have very retentive memories, and will get to know the theory of the science, and so will pass their examination, and yet, at the same time, are very unfit persons to enter into country practice. Some few years ago I well remember two gentlemen, who emanated from the London College, one of whom being required to bleed a cow was positively unable to do so; and the other, on being applied to for a drying drink, returned for an answer, that "he did not sell them." If he had said that he "could not prepare one," it would have been, in my opinion, much more straightforward. Now, I would ask whether those gentlemen were fit to engage in their profession. How they managed to pass I am at a loss to know, for they were alike deficient in many other things. Therefore I think if a plan something like what Mr. Cox suggests were adopted, it would work very well; although I do not see why a man who has been in a respectable

practice the greater part of his life should not be admitted to an examination, if not special, at any rate after attending one session. Mr. Cox speaks of some parties with much disdain; but I think as regards some of those quacks and pretenders to whom Mr. C. refers as having been imposing upon the public for a period of ten, twenty, or thirty years, they would probably baffle the skill of very many of the graduates; therefore, as I said before, I do not see why they should not be admitted, supposing they had served an apprenticeship, and been several years in practice for themselves, and by that means to have acquired a sufficient knowledge to become duly qualified. Nor can I see, as has already been observed by one writer, what difference it would make to the Council or any other party, about the period of study at either of the schools, supposing the abilities of the candidates were tested before their entry. If some of the pretenders were allowed an examination, either special or after having attended one session at College, I think the Council would not do much wrong; and they, together with the Board of Examiners, would manufacture some better vets. than has been done; since it is not the man that has the most money who has the most sense; and it was a saying of Professor Coleman's, that "Farriers' sons and grooms made the best veterinary surgeons." I think there are many who would submit to undergo an examination, were it not that the time that is required for them to leave their home and practice is a difficulty which is not easily overcome. I should myself, although I have done and can do very well without it; for I served an apprenticeship, and have been several years in practice on my own account, and am one of the successful "imposters," it appears; nevertheless, I, as well as most other men who call themselves respectable, like honour, and for the sake of that should like to become a member of the body corporate; for I consider that it confers an honour upon its recipient. But Mr. Cox must think, after all, that the successful "imposters" which he speaks of, have a good share of knowledge, or at least more than the unsuccessful; else whence comes their success? Since we cannot for one moment suppose that a man could be successful for thirty years without having had a good degree of knowledge to impose upon the public withal. I cannot think that a successful practice for so long a period as that would be attributed to chance; and I cannot but think that if the Charter will not prevent druggists from prescribing, and old shepherds, and those who have not served an apprenticeship, or attended College from practising, it will be but of little practical good to the profession.

Gosberton, April 13th, 1849.

REMARKS ON MR. MAYHEW'S CASE OF MELANOSIS.

By WILLIAM MAVOR, Jun., M.R.C.V.S.

Sir

40, New Bond-street, April 13th, 1849.

OBSERVING in THE VETERINARIAN for this month an article written by Mr. Mayhew, upon Melanosis, wherein he mis-states and questions my opinion, I beg to make a few remarks in reply, and to set that gentleman right. But before entering further upon the case, I think it necessary to mention that I have had an interview with Mr. Buckle, the proprietor of the animal and subject of dispute, and I have the authority of this gentleman to state, that my opinion, as subjoined, was distinctly conveyed to him; and, moreover, he positively assures me that he in no way whatever communicated such opinion, or any other, to Mr. Mayhew. It is, therefore, scarcely necessary for me to mention, that the information upon which the last-named gentleman has thought proper to make assertions so positive and so undeniably erroneous as those I will hereafter refer to, has been derived from a very questionable source; and Mr. Mayhew must feel that he would have acted wisely had he exercised more caution by ascertaining the correctness of the information he received before publicly impugning another's judgment, and arrogating to himself a superiority of perception which he has not only failed to establish, but has, in consequence thereof, reflected upon him the disappointment, from its being shewn to the public that his vaunted superiority of judgment in this case is only self-accorded.

I will now refer to Mr. Mayhew's mis-statements relative to my opinion, and then give it in its real form.

In the first place, Mr. Mayhew asserts, that "I regarded the enlargement as a simple tumour; that it might prove melanotic, did not enter into my idea of possibility." No such thing; for I must inform him that, when the horse was submitted for my examination, *I unhesitatingly, after due observation, affirmed that the tumour was melanotic in its character.*

In the second place, Mr. Mayhew remarks, that "I pronounced the removal by the knife an impossibility." I must again inform him, that in this respect also he is in error, as *I did not consider that its removal was impracticable, but that, in the event of an operation being performed, serious consequences would, in all probability, ensue, and endanger the life of the animal; and, therefore, the more politic course would be to leave it entirely to itself.*

And I still apprehend that any person of *practical experience*, having seen the case, would entertain a similar opinion.

The above, Sir, are the facts of the case briefly stated, in contradiction of Mr. Mayhew's assertions, which, in justice to myself, I feel called upon to refute; and, trusting to your well-known sense of fairness, and that you will oblige me by giving insertion in your valuable pages to the foregoing remarks,

I have the honour to be,

Sir,

Your obedient servant.

W. Percivall, Esq.,
Editor of "*The Veterinarian*."

P.S. I may, perhaps, be excused for making comment upon an opinion advanced by Mr. Mayhew, to the effect that, when the contents of a melanotic tumour are exposed, there is no medicine that can heal the wound. I can, however, assure him, and those who may not be aware of the fact, that such an opinion is untenable, as I have witnessed several instances in which these tumours (and some of them large ones), having burst spontaneously, or been opened by design, have afterwards radically healed under the most simple treatment, and also without any treatment at all.

PROFESSIONAL ETIQUETTE.

To the Editor of "The Veterinarian."

Sir,—UNDER the conviction that the observance of strict professional etiquette is a most important, not to say indispensable, means of maintaining a proper feeling among the respective members of our profession, I feel justified in requesting the insertion of the following remarks:—

About the middle of last month I was in attendance on a horse the property of a gentleman in my immediate neighbourhood, upon whose case the owner expressed a wish for a second opinion, to which I readily agreed, prefacing my consent with the qualification, that it was only for his individual satisfaction, since for my own part, I felt myself satisfied with the progress of my patient. I was next asked whether I had any objection to Mr. Mavor. This question having also met with an assent, that gentleman was accordingly called in. Shortly subsequent to his arrival, I was summoned to the box, and, after passing the usual reciprocal formalities, I gave the history of the case, with my views and treat-

ment; all of which (to judge from his reception of them) seemed to meet with his entire approbation. After walking with him out of the stable we parted, and from the fact of he (Mr. Mavor) not having hinted at any alteration of treatment, I was, of course, at liberty to consider the case left to my discretion. But—"and here lies the rub"—on my return to the owner, I was informed that Mr. Mavor had expressed his intention of sending some medicine. "By your request, of course?" I inquired; how so? Mr. Mavor, on entering the box, said, "Do you wish me to send him any thing?"—"If you think you can do him any good, Sir!" was the answer. Further conversation was checked by my entry. The owner afterwards informed me that he considered, on seeing Mr. Mavor and myself walk away in company, that we should consult on the propriety of adopting certain measures. I have given, Sir, this conversation *verbatim*, that I may avoid the possibility of a partial statement. It will be observed, that the owner had acceded to Mr. Mavor's wish to treat the animal. With this proceeding on his (the owner's) part I do not quarrel; he was not supposed to be cognizant with professional rules; he only looked to the recovery of his horse, and like "a drowning man clutching at a straw," eagerly accepted any probable means to that end. Him, therefore, I hold excused from any ulterior intention. But I ask, was it considerate, was it gentlemanly, was it *professional*, on the part of Mr. Mavor even to hint at taking a case from the hands of a fellow practitioner? Even had he been requested so to do, it appears to me he would by no means have lowered his dignity by observing the propriety of consulting the medical man in attendance first. It has been my fortune, Mr. Editor, to meet men of no mean standing in the scientific world, whom age and experience gave a right, as it were, to assume the master; but that age and experience had also taught them to consider the importance of a gentlemanly conduct, and had rendered them conscious of the fact, that while their condescension would detract nothing from their characters as members of a liberal profession, it would leave their names respected in the minds of every fellow-labourer in the scientific field with whom they might be brought in contact. There is a little circumstance connected with this subject so illustrative of the sort of feeling that should universally exist, that I cannot refrain from mentioning it. Mr. Gowing, of Camden-town, was called on a short time back by a person who informed him that his horse was dangerously ill; and further, that his veterinary surgeon had not seen him since the morning, finishing his remarks with the earnest request, "Will you go and see him, Sir, and do what you can?" My friend's answer was in the words, "Certainly not, Sir!" on my own account; but on con-

dition that you send immediately for the gentleman who attends your horse, I will go with you and combat the urgent symptoms, and on his arrival will give up the case to him." This was done; and the practitioner's thanks were the only acknowledgment Mr. Gowing received or required for the trouble he had taken. No matter how I became possessed of this narrative; suffice it to add, my authority is indisputable, and I trust my friend will excuse its insertion here without his knowledge or consent: it is a tribute of admiration for his conduct as a professional man which I could not resist paying him.

In conclusion, Sir, I wrote privately to Mr. Mavor, requesting an explanation of his motives, a copy of which note I enclose. In return, he writes to say, he was not requested to consult any one; but that the owner, being dissatisfied with my treatment, sent for him; that he had nothing to do with me, save to ascertain what treatment I had adopted (a copy of this note I also enclose). With what took place between Mr. Mavor and the owner of the horse I have nothing to do. I maintain the two positions—1st, that my consent was asked; and, 2dly, that I met Mr. Mavor on the case, and received no hint from him that he intended to take it into his own hands. And I confess, Sir, I did not at all dream that I was sent for in order to be the honoured instrument of imparting to him what my treatment had been, and thus give him an opportunity of inferring what to do by negative deductions from what had already been done.

Allow me, Sir, to state, that I throw away all personal or vindictive feeling, and make this matter clearly a public consideration, on the broad assumption, that, if the veterinary profession is a regularly constituted body, then an insult offered to the meanest subject is an injury to the whole constitution.

I remain, Sir,

Your obedient servant,

G. T. BROWN, M.R.C.V.S.

Infirmery,
40 & 41, Park-crescent Mews West,
New-road, 13th April, 1849.

Copy of Letter to Mr. Mavor.

Mr. Mavor, jun., Saturday, April 7, 1849,
40, Park-crescent Mews West, New-road.

Sir,—FINDING, on inquiry, that you have discontinued your attendance on Mr. Jones' horse, I feel myself at liberty to make a few comments, which, while you were still in attendance, the possible imputation of mercenary motives to my conduct kept me from attempting.

To Mr. Jones' request for a second opinion I returned, of course, a ready assent; accordingly, by his wishes, you were sent for to advise. After hearing my views and treatment, you thought proper to make no comment on either, but after a few general observations took your leave. Upon returning to the stable I was surprised to hear from Mr. Jones that you had intimated your intention of attending to the horse: a piece of information which, while it astonished, also grieved me; not from any importance I attached to the case, but from the somewhat unprofessional character of such a course. I believe it is usual, where the opinion of a practitioner is sought in addition to another in attendance, for a mutual consultation on the merits of the case to result; and if the new comer can adduce any reasoning which shall be calculated to throw additional light on the pathology or treatment, it becomes, I presume, the office of the practitioner in attendance to adopt such proceedings as shall be unitedly agreed upon. But I assure you, that the remote possibility of a professional man of some years' standing in public estimation quietly and without any comment taking a case from another's hands, never for one moment entered into my imagination.

I have preferred taking, in the *first instance*, this private method of giving you an opportunity of explaining your motives rather than bring the matter before the public, though, for my part, I cannot see any circumstances which could possibly justify such a mode of procedure.

I remain, Sir,
Yours obediently,
G. T. BROWN, V.S.

Copy of Letter from Mr. Mavor.

In reply to Mr. Brown's letter, Mr. William Mavor has to say, that he was not requested to consult with any person whatever relative to Mr. Jones' horse. The details of the case were related by the owner, who considered that the horse was becoming worse under the treatment he had been subjected to, and consequently he felt dissatisfied.

Mr. Mavor has no motives to account for, as he had nothing to do with Mr. Brown beyond ascertaining from him the nature of the treatment employed.

41, New Bond-street, April 12, 1849.

PROTRUSION OF THE VAGINA AND RECTUM IN A COW.

By J. HORSBURGH, V.S., Dalkeith.

THREE weeks ago I was sent for by Mr. M. Alexander, farmer, Pardivine, to attend a cow, said to be very ill. Before this time Mr. Alexander had frequently called on me, as she had often been threatened with inversion of the vagina, which had taken place the year before while in calf. I had been ordering soft food, and that the bowels be kept soluble by mild aperient medicine.

When I saw her, the vagina protruded about twelve inches, measuring fifteen inches in circumference. The rectum protruded to the extent of eight inches, being twelve inches in circumference. The straining was most violent and incessant; the fæces were expelled to the distance of several yards; the pulse was much accelerated; the nose protruded; the eyes were sunk; the back was arched, and the coat staring.

There was no time to lose, seeing the animal had been in this state for twelve hours, during which period they had been using means to return the inverted vagina and rectum. I proposed to the owner, to extract the calf (which was supposed to be in the eighth month) as the only means of saving the cow, conceiving that there was something in the position of it, or its death, or malformation, that was causing such extensive derangement of the parts. This was at once acceded to, he saying, I might do whatever I pleased, for fear she should soon be lost.

I gave her gum. opii \mathfrak{z} ij, dissolved in boiling water; had a broad circingle buckled firmly round her middle, to prevent as much as possible her violent straining; fomented the protruding parts with hot water, afterwards with vinegar and water; and then returned them, though with considerable difficulty. I then proceeded to dilate the os uteri. This I effected without the use of the knife; first, by pressing my finger through it; then by enlarging it by means of the hand rubbed with soap, gradually introducing both hands until I had fully dilated it, and reached the calf, which was alive, but lying with its head under the shoulder, and almost on its back. The head being in a position downwards towards the udder, I had some difficulty in bringing it to the proper position. I fixed cords to each of the fore feet; I first amputated one, and then the other, by the shoulders, thereby lessening the size considerably. Next, I fixed a cord on the under jaw, by which the head was brought into a position where I got another on the

neck, and, with three assistants, effected its extraction. I lastly removed the placenta; bathed the parts with equal portions of vinegar and cold water; put on the ropes in the way already pointed out in *THE VETERINARIAN*; gave a dose of physic, covered her with a warm blanket, and left her quiet; enjoining a person to watch her, and keep the bandage in its place. She was ordered chilled water, but no food.

I visited her next day, and found the cow looking well. The physic was operating, and she was drinking freely. I slackened the bandages a little, and ordered bran or turnip gruel.

Two days after I visited her again. There had been no part of either vagina or rectum protruded since the calf was extracted. I removed all the bandages, and ordered bran and turnip mashes.

I have visited her several times since. She is thriving, and looks as if nothing of the kind had happened. She is intended to be fed on grass, as I have advised the owner not to allow her to have a calf again.

Dalkeith, 16th April, 1849.

P.S.—I think it always best, in cases where there is likely to be difficulty of extracting the calf, or where the cow is not prepared for calving, to amputate the fore legs by the shoulders at once.

VETERINARY JURISPRUDENCE.

OXFORD CIRCUIT—STAFFORD.

CASE OF WARRANTY.

Stokes v. Shotton.

Mr. Whatley and *Mr. Gray* appeared for the plaintiff; *Mr. Sergeant Talfourd* and *Mr. Woolrych* for the defendant.

This was an action of trover for a horse. In December 1847 the plaintiff bought of the defendant, who is a horse-dealer at Woverhampton, a horse for £10, and paid down £9, keeping the remaining pound till he should ascertain whether the horse would answer a warranty given by the defendant that the horse was sound and a good worker. After keeping the horse for some days, the plaintiff sent him back, alleging that he did not answer the warranty, and demanded his £9. The defendant refused to

give up the money, but offered to give back the horse. The plaintiff refused to take the horse, and wanted only his money, and thereupon sued the defendant in the county court; when the question being whether the horse was or was not a good worker, the judge of that court referred the question to a veterinary surgeon, who, after seeing the horse at work, certified that he was a good worker; and, thereupon, there was a verdict for the defendant. The defendant then requested the plaintiff to take back the horse, and to pay the expenses of the keep. The plaintiff hesitated to pay. The defendant then gave him a written notice, that if he did not, by a specified day, pay the expenses of the keep, he would sell the horse for the keep; and he accordingly kept his word, and sold the horse by auction for £1.10s., and immediately afterwards in the market for £4.10s. The plaintiff then claimed back the horse.

The defence was that the horse was sold under a warranty; that the plaintiff had a right to rescind the contract on the horse not proving equal to the warranty, and that he did so; and that all his acts, till after the sale of the horse, were consistent with that view; that therefore, though he had now a right to claim back the £9, he had no right whatever to claim the horse itself, which he had so steadily repudiated, till after it was in the defendant's power to return it; and, consequently, that there ought to be, in this particular action, a verdict for the defendant.

His Lordship summed up, telling the jury, that, unless the defendant also agreed to rescind the contract, it continued, and the horse remained the property of the plaintiff; and the defendant had no right to sell him for his keep, but merely to sue the plaintiff in another action for it.

The jury having deliberated for some time, found a verdict for the defendant.

HORSE-SHOES FIXED ON WITHOUT NAILS.

By WILLIAM PARRY, Patentee of the New Method of Shoeing Horses for general Service without Nails.

IT may appear strange that one who has passed the best years of his life in the distant regions of La Plata, where shoeing the horse is unnecessary, and consequently unpractised (save only for the paved streets of Buenos Ayres and Monte Video), should at

length return home to rebuke the civilized world for having travelled into the middle of the nineteenth century, still practising the method handed down to them by their forefathers, of attaching the indispensable shoe to the foot of the horse by driving nails into his hoof with violence and uncertainty.

Let not the more scientific farrier of the metropolis and of other large cities take alarm at the language I use in thus introducing the subject. I have no intention of making an attack upon his knowledge and skill in the practice of his daily calling. If nailing the shoe to the hoof cannot be dispensed with; if the hammer is the only instrument that can be devised to effect the object required—a secure fastening; most readily do I admit that the present system of horse-shoeing has been brought to great perfection by the higher class of existing practitioners.

It is not with their work, but with the principle upon which they work, that I quarrel. They have done, and are still doing, their best to make a detestable system, a system incurably bad in its origin, a good one; and, therefore, if the world must submit, as a matter of unavoidable necessity, to have the shoe fastened on by violence, only to be removed again by violence, there is nothing more to be said or written upon the subject.

I stand forward, however, fearlessly to assert that the hammer and the nail must give place to a process equally simple, but much more certain, much more effective, and fraught with incalculable advantages to both horse and owner.

To deal with this subject professionally is out of my province; any pretence at veterinary knowledge which I do not possess would be but exposing myself to ridicule.

I must consider it a simple mechanical question, as to the best available means we can find of attaching an iron shoe to an insensible animal substance, with compactness and security, and with the least injury to this substance in its living state.

If the plan of removing a small portion of the fibre of the hoof with scientific accuracy and precision by the gentle use of a fine round instrument, such as a drill, shall inflict more injury upon the hoof than a nail driven into it with muscular force (an assertion I have recently heard in a quarter whence I least expected it could proceed) the invention will probably perish. Furthermore, if the nail secures the shoe to the foot well and satisfactorily, whilst the new method proposed proves a shaky and unsafe fastening, the invention must perish. Again, if it comes forth tainted with the sins of high price and complication, making war on the pockets, the time, and the brains of the million, the invention must perish. But if it be found that the staple gives a more secure fastening than the clench; if it be found that the quiet

and easy working of the drill silences *the ring of the nail in the hoof*, upon which the experienced farrier of the present day reposes his trust to avoid piercing the region of sensation; if the eye should be discovered to be a better organ than the ear to guide us in a doubtful operation upon animal life; if it be seen that the shoe may be removed to-day and replaced to-morrow, still leaving the hoof *in the same state of integrity* that it possessed yesterday; finally, if, combined with the foregoing advantages, it be found that this invention possesses the three essential characteristics of simplicity of design, facility of execution, and efficiency of purpose, then shall my new system of horse-shoeing live and prevail until another and a better method is discovered to supersede both that and the one which, perhaps, may now be closing its long career.

We have still to lament that the mists of prejudice and self-interest should, even in the days of enlightenment granted to the present generation of men, spread themselves over every novelty intended for the general good. These two great enemies to improvement are ever in the field against reason and science; thus, mankind are frequently denied the benefits of some great and general blessing, or they are compelled to submit to some sad and pestilent evil long after the ordinary course of events would have given them the one or have removed the other.

However valuable his lucubrations, whatever benefits they may be calculated to confer on society, the bold and daring innovator on long established usage is certain to meet with hosts of opponents among the prejudiced and self-interested.

Can, then, the novelty I am now introducing to the world hope to escape the inevitable penalty that innovation calls down upon itself? Assuredly not. I arm myself with patience for the battle, and make my account in seeing one-half of the professional and two-thirds of the operative men connected with this branch of the veterinary art in array against me: still shall I not be without support even in their own camp; and public opinion has already commenced forming its phalanxes in favour of the novelty. The numerous communications I am daily receiving from all parts of the island, expressive of hope that a remedy has at length been found for the lamentable evil, prove that the community at large are quite ripe for the change. The world is anxious to discard the ancient system of horse-shoeing; a system greatly improved by the scientific knowledge and carefulness of modern farriery, but, nevertheless, based upon the primitive ignorance of those races of the human family whose history has long been blotted from the records of time. Science and talents of no secondary order have frequently been at work to improve upon horse-shoeing, by attaching the shoe to the foot without the use of nails: and they have given

birth to many ingenious devices, valuable in cases of accident or infirmity; but all have fallen short of the great *desideratum*—a method of shoeing without nails, applicable to general service. All the patent shoes hitherto invented have been pulled off by the stiff clay soils of costliness and complexity, leaving the rider to revert back to the nails of his ancestors.

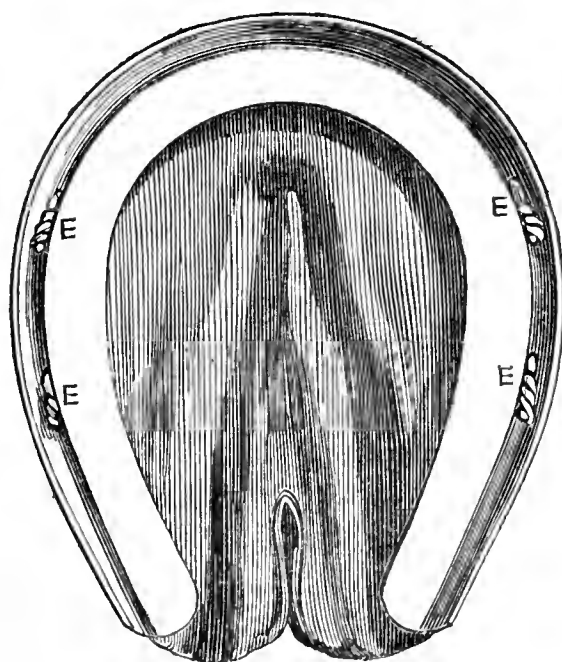
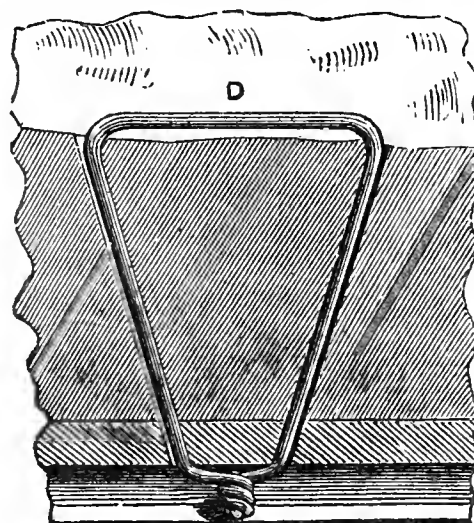
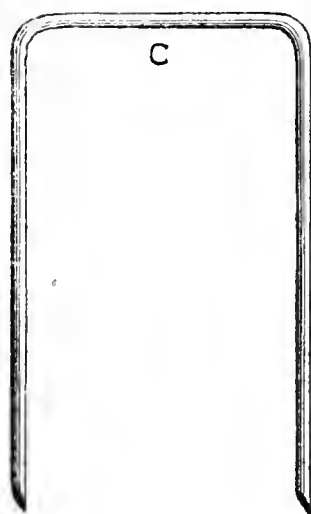
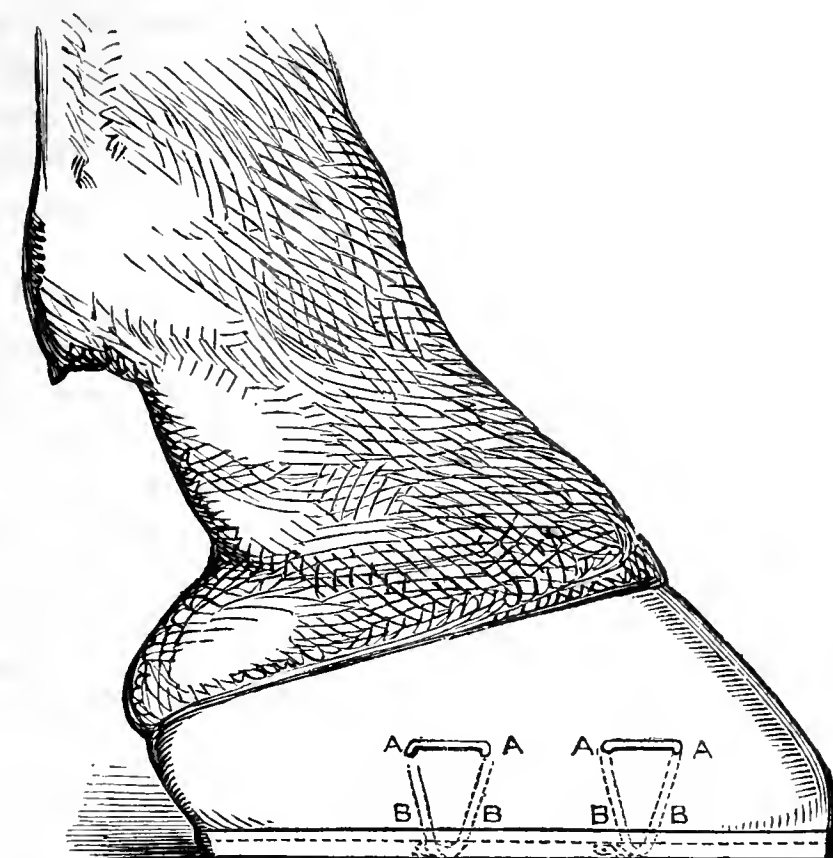
It now remains to be seen whether the small staples of annealed wire with which the horse is shod that I am daily driving over the pavement of this metropolis, has not, at length, effected this desirable object. I think that it has; but this is a matter which public opinion alone will decide. My prospectus is before the public, shewing the method of applying the staple; and I must venture to express the hope that farriers in general will see the necessity of practising and making themselves perfect in the simple process of drilling small holes through the insensible hoof, at measured distances, with accuracy and precision, that their trade may not pass into other hands.

I shall feel gratified if the Service, the Turf, the Field, and the Public at large shew a willing disposition to give my invention a full, impartial, and ready trial; but I ask for it no further support than what it may be found to deserve. Should it prove a weak and sickly plant, it will pine in obscurity, and shortly sink into oblivion, like many others that have preceded it, despite the highest patronage with which it could be honoured. On the other hand, if it shall take root and shew itself a healthy and vigorous sapling, opposition may for a time retard its growth, but cannot long prevent its becoming a lofty tree, spreading its branches over the civilized world.

20th April, 1849.

*** To those who have not seen the invention in question, the above description may prove insufficient to explain its nature. It consists of the common fullered shoe, fastened on by means of iron wire staples—that have undergone the process of annealing—introduced into the wall of the hoof A A, through holes bored into it, taking nearly the same direction and course as the nails do. The staples are turned downwards, so that their ends emerge within the canal of the fullering at B B, where by means of pliers they are brought into contact and twisted together, and the twist afterwards turned and beaten down snugly within the canal E E. The deeper the fullering, therefore, the better. The staples are introduced on either side, the number, as in the use of nails, being left to the judgment of the practitioner.—ED. VET.

C represents the staple. D shews the course the staple takes through the hoof, with its approaching ends twisted together within the fullering.



PROCEEDINGS OF THE COUNCIL OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.

Sitting of March 30, 1849.

(QUARTERLY MEETING.)

Present,—The PRESIDENT, the SECRETARY, the TREASURER, Messrs. ERNES, WILKINSON, BURLEY, JAMES TURNER, GODWIN, SPOONER (Professor), ARTHUR CHERRY, PEECH, CHERRY, sen., KING, and HENDERSON.

THE minutes being read and confirmed, the Report from the Committee appointed to consider the By-laws was submitted, and the labours of the Committee, in the form of an amended code of By-laws, was laid before the Council.

Mr. Arthur Cherry, before the subject was entered on, said that much doubt existed, in his opinion, as to the power of the Council to enter into the premature discussion of new By-laws; that it was well known that he was opposed to this measure, but, at the same time, he had no intention of raising a factious opposition: any good measure that was proposed he would support.

The President considered that the Council had the power to enter at that time into the consideration of the subject matter before them.

A discussion ensued, in which Messrs. King, Godwin, Spooner, James Turner, and Henderson, took part; and it was decided, ultimately, that the Council should discuss the question prior to the Report from the Committee being suspended.

The Secretary then read the Report, after which the various sections were taken *seriatim*: all those which related to the internal management of the Council, or regulated the duties of the different officers, were passed without any great alteration. Upon that portion of the proposed code which related to the examination of students, much discussion ensued; previous to which

The President read two protests from members of the Committee against the proposed clauses; one from Mr. Pritchard, the other from Mr. Arthur Cherry, both nearly alike.

Mr. Arthur Cherry said that, in consequence of the unavoidable absence of Mr. Pritchard, he had been deputed by that gentleman to lay before them his opinions, which he had forwarded in a written form; and then read a very concise but powerful explanation of his reasons for protesting against those parts of the proposed clauses under discussion. Mr. Arthur Cherry quite agreed with the spirit of Mr. Pritchard's observations; but as he well

knew that very opposite opinions were held by gentlemen learned in the law on those portions which had been considered to be improper, he should not enter into a discussion on the merits, but submit certain amendments, which he should suspend with the proposal from the Committee, considering that the time for supporting his views would be when the period necessary for suspension had expired.

A smart discussion ensued, in which it was unanimously decided that the points under debate should be referred, and both the opposing propositions suspended.

Mr. Jas. Turner stated that he had one clause he thought of consequence, which he should suspend in like manner.

The remaining clauses were then gone through, but not any point worthy of note transpired.

Directions were then given for the insertion of advertisements convening the General Meeting for the first Monday in May (7th).

The Secretary was directed to prepare a Report of the proceedings of the Council for the past year, in order that the same might be laid before the General Meeting.

A letter was read by the Secretary from ten students at the Edinburgh Veterinary College, asking for the day of examination to be fixed between the 19th and 23d April.

The Secretary was directed to inform the Secretary for that portion of the Court of Examiners, and to leave the fixing of the day in his hands.

Adjourned.

Sitting of April 13, 1849.

(SPECIAL MEETING.)

Present,—The PRESIDENT, the SECRETARY, the TREASURER, Messrs. ERNES, JAS. TURNER, CHERRY, sen., BRABY, ARTHUR CHERRY, HENDERSON, and GOODWIN.

The minutes being read and confirmed,

The Secretary read a draft of the Annual Report, which he had been directed to prepare. The document met with general approval, only a few verbal alterations being proposed.

Mr. Ernes moved, and *Mr. Arthur Cherry* seconded, "That the Report be adopted," which was unanimously carried.

Mr. Arthur Cherry, as Registrar, laid before the Council the report of the proceedings in his department for the past year.

Mr. Ernes moved, and *Mr. Field* seconded, "That the Report be received and appended to the Annual Report."

Carried.

The Treasurer laid before the meeting the financial accounts, which were of a very satisfactory nature.

Mr. Arthur Cherry moved, and *Mr. Ernes* seconded, "That the balance sheet from the Treasurer be received and appended to the Annual Report."

Carried.

Mr. Arthur Cherry moved, "That a vote of thanks be given to the Treasurer for the very lucid and careful manner in which his accounts were kept and presented;" which, being seconded by *Mr. Jas. Turner*, was carried.

Adjourned.

Subjoined are those parts of the proposed code to which objection has been raised, and the motions or amendments thereon.

NOTICE OF MOTION—*By James Turner.*

Section 17, Law 2.

"The Examiners will also, at their discretion, adopt such measures as they may think fit in order to ascertain how far candidates have made themselves acquainted with the acknowledged practical principles of horse-shoeing, and the other practical duties of their profession.

"March 30th, 1849."

NOTICES OF NEW MOTIONS AND AMENDMENTS ON THE PROPOSED BY-LAWS—*By Arthur Cherry.*

In Section 14, add Clause,

"That the Principal Veterinary Surgeon to the Army be a Member, *ex-officio*, of the Court of Examiners, with the privilege of examining the student and signing the diploma at his own option; such examination, however, not to interfere with the routine duties of the regularly appointed Court of Examiners."

In Section 16, in the place of Clauses 2 and 3,

"No Special Court of Examiners shall be convened unless two students, at the least, shall make application, and the usual fees only to be demanded."

In Section 16, Clause 4, amend as follows :

“ Students desirous of being examined at any Special Court of Examiners must give such proofs, and make the payments otherwise directed.”

To be added a Clause,

“ That the Council shall have the power of suspending, for a limited period, any of the laws and regulations relating to the examination and admission of students, should such course in their judgment become requisite.”

Each Candidate prior to his examination must produce certificates, or other satisfactory proof, to the following effect ; viz.

- “ 1. Of having completed his twenty-first year.
- “ 2. Of having served an apprenticeship of not less than three years to some Member of the College in regular practice during the whole of that period ; or of having been engaged in the pursuit of professional knowledge for the same period.
- “ 3. Of having attended during two sessional years, Lectures delivered at the Royal Veterinary College of London or Veterinary College of Edinburgh, or at such other veterinary school as may be sanctioned by the Charter, on
 - a. The Anatomy, Physiology, and Pathology of the Horse, Cattle, Sheep, Pigs, Dogs, and other Domesticated Animals.
 - b. Veterinary Medicine and Surgery.
 - c. Chemistry, Materia Medica, and Pharmacy.
- “ 4. Or, in lieu of the apprenticeship required in Law 2, of having attended for three sessional years the practice and lectures named in Law 3 at one of the recognised Colleges.
- “ 5. Of having diligently dissected during his pupillage at the College.

- “ 6. Of being able to take off and put on a shoe, pare out a foot, and search for its diseases; such Certificate to be available either from the Professor of the College, or from the Practitioner with whom he served his apprenticeship.
- “ 7. Of having conformed to the Rules and Regulations of either or of any such schools recognised by the Charter at which he has been a Student.
- “ 8. These Certificates, together with the Fee for examination and admission, must be delivered to the Secretary at least fourteen days before the examination takes place.”

Sect. 16.—Special Meetings of the Court of Examiners.

1. The President, or, in his absence, the Secretary, may direct a Special Court of Examiners to be holden on any emergency.

2. Every person upon whose application and on whose account any such Special Court shall be holden, shall, in addition to the usual examination fees, pay into the hands of the Secretary, prior to such Court being convened, the sum of £21 as the cost of convening such Court.

3. Any one or more person or persons may be examined at such Special Court of Examiners, first paying to the Secretary, for and on account of the person at whose expense such Special Court shall have been convened, his or their rateable proportion of the expense thereof, in addition to the usual examination fees.

4. Students desirous of being examined at any Special Court of Examiners must give such proofs, and make such payments, as are lastly hereinbefore mentioned, prior to the Special Court being convened, if required so to do by the Secretary.

Sect. 17.—Nature and Extent of Examinations.

1. The nature of the Examination which the Council will require the Student to undergo will extend to the Anatomy, Physiology, and Pathology of the Horse, Cattle, Sheep, Pigs, Dogs, and other Domesticated Animals, Veterinary Medicine and Surgery, Chemistry, Materia Medica, and Pharmacy.

2. The Examiners will also, at their discretion, adopt such measures as they may think fit in order to ascertain how far candidates have made themselves acquainted with the practical duties of their profession.

R E V I E W.

Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

LAMENESS IN THE HORSE: *with coloured Lithographic Plates, illustrative of the different Species of Lameness.* Being Part I of Vol. IV of the Author's "HIPPOPATHOLOGY." By WILLIAM PERCIVALL, M.R.C.S. V.S., &c. &c. Longman & Co. London.

IT will be impossible for any one to look over the first part of the fourth volume of Mr. Percivall's HIPPOPATHOLOGY without feeling that his has been, indeed, a labour of love: each preceding "part" had, to a certain extent, predicated this feeling; but it was reserved for the present most fully and unmistakably to develop it. The three leading topics of the volume, Rheumatic Diseases of Joints, Spavin, and Navicularthrititis—a most tiresome word to write, although very significant when written—have been treated with a fulness, a researchiveness, a comprehensiveness, that prove them indisputably to have been penned *con amore*: either of them, taken alone, would constitute a monograph of sufficiently sterling value to have brought its author at once before the public; and we can only account for the same *de gustibus* devotedness pervading the three, even to the last paragraph of the trio, by bearing in mind that, however they may differ in name, they are in reality but varieties of one disease, modified by locality and intensity; for as for any three articles on entirely different topics being taken by one author, and treated with the same warmth of colouring, truthfulness of detail, and fulness of description, anatomic, pathologic, and therapeutic, we hold it to be utterly impracticable.

If we were to select any portion of a work where all is good for more immediate praise, we should most unhesitatingly take the symptomatology. This is certainly the most perfect thing of the kind we have ever met with in veterinary writings, nor do we believe it to be excelled by any authors on medicine or surgery. The symptoms, as detailed by our author, we feel to be true—we go along with him without for a moment thinking of questioning

his accuracy, for there is not an experienced practitioner who reads but intuitively recognises them; they are the results of his own experience, the guiding points of his own practice, familiar to his mouth as household words, and serving him in the daily routine of his duty as faithfully as the spirits of the lamp or the ring. How he acquired them, where he picked them up, at what periods they were accumulated, “where engendered how begotten,” he is miraculously ignorant; but there they are, obedient to the beck and call of every one deserving the name of an experienced practitioner. That this is true, all will agree; but the wonder is, that no one before has ever communicated this knowledge to others: with the bare exception the lecture-room—and there but too sparingly divulged—all, both authors and practitioners, have proved themselves arrant misers, hoarding up invaluable knowledge, using it, it may be thriftily and well for themselves, but, in the end, they have died and made no sign to enlighten others.

We have had many authors who have written on the lamenesses of horses, the causes of those lamenesses, and their seats; but we have never had one before who has taught us how to make an examination, who has pointed out the symptoms that examination should elucidate, or the opinion that should be formed on the indications thus obtained, at all to be compared to William Percivall. Are proofs wanting of this? They are to be found “thick as the leaves in Val Ambrosie.” We are first to notice our patient while at rest.

“A horse suffering acute pain in one of his legs will—if it be a fore limb—as the phrase goes, ‘point’ the lame foot, *i. e.* place it in an extended position in advance of its fellow, and in this manner himself inform us, by such silent supplication for relief, whereabouts he feels his pain. The animal will do this (point) while standing in his stall even; so that a person going into his stable may, from this circumstance alone, not only discover a lame horse, but also foretell the leg of which he will go lame. In qualification of this remark, however, it must be added, that *pointing* does not invariably denote lameness: some horses will point from a habit they have contracted during some previous lameness; others will for the sake of ease or repose point, and thus rest first one fore foot and then the other. Should the pain be in a hind limb, the animal will either stand with it flexed, treading gingerly upon the tip of the toe, or else carry the foot quite off the ground, and thus, ‘cocked

up'—as the saying is—go hopping along upon three legs. A horse with acute pain in both fore feet will stand with his hind feet advanced underneath his belly, resting first one fore foot then the other, and every time he moves will rear up his head and stretch out his neck, in expression of the pain he suffers: on the other hand, should his hind feet be in pain, he will stand with his fore limbs extended backward, towards the central line of gravity, with his head hung down, lifting first one hind leg and then the other."

Then we have to see him move; but before doing so, we are put in possession of the peculiar action to indicate the lameness.

"In respect to the leg upon which a horse 'drops,' any man who has been lame himself—who has had (and who has not had?) a painful corn," will feel that "he lifts his weight as much as he can off his ailing foot, to let it down or 'drop' upon his sound foot. The same thing happens in the lame horse. Flinching from the pressure or concussion of the lame leg or foot against the ground, he suddenly lifts the lame side of his body to 'drop' the weight of it upon the sound side. Should the lameness be in one of his fore limbs, the *head* with the body is elevated and depressed, the latter motion giving to the head that significant 'nod' by which we distinguish at once which is the lame leg: on the other hand, if the lameness be in a hind limb, the *croup* will ascend and descend, the head being kept steady the while, or else jerked up every time acute pain is experienced. It is by observing the elevation and declination or 'nodding of the head,' and the raising and sinking of the croup, that we in general are enabled to say at once which is the lame leg: we watch the rise and the fall or 'drop,' sometimes nodding our own head in concert with the nod of that of the lame horse, by way of setting up a sort of memorandum or note in our own mind to guide us to a sure diagnosis. I remember the late Professor Coleman was in the habit of doing this; and so are many excellent veterinary practitioners of our own day."

And when he is taken out, how is it to be done?

"I. Let the horse to be examined for lameness be led out of the stable in a snaffle bridle, the rein of which is already carried over his head; and let the man who is to run the horse hold the bridle-rein at that distance from his mouth that will permit the animal to trot without any check or restraint whatever of his head, the object being to suffer or induce him to shew, by the up and down motions either of his head or of his croup, as well as by his manner of going altogether, any limping or lameness he may have to com-

plain of, and thereby to put the examiner in possession of the locality or seat, if not of the nature, of his complaint.

“II. The horse ought to be run the moment he has quitted his stable. By so doing we shall, probably, obtain a steady run before the commencement of those gambols which a high-fed horse coming fresh out of the stable is almost sure to display, and which too often continue, much to our annoyance, if not to the defeat of our purpose. Another reason for the run being given immediately is, that any stiffness or indication of lameness the animal may happen to manifest in his first movements, and which on occasions it is of so much consequence we should take cognizance of, may not, through previous walking or jumping about, be diminished or dissipated.”

Then we are warned to be cautious in our opinion, bearing in mind,

“The error most apt to be committed in determining the lame limb, and one that now and then, without proper attention, will be committed even by professional persons, and therefore one against falling into which it behoves us all to be upon our guard, is pronouncing lameness to be in a *fore* leg when it is in the *reverse hind*, or in a hind when it is in the reverse fore limb. Simply observing upon which side or limb a lame horse drops will point out to us whether his lameness exist in the off or the near leg: such, however, is the sympathetic effect of this dropping or lurch of the body upon the reverse hind or reverse fore limb to that of which the animal goes lame, arising from the synchronous action of these limbs in the trot, that, without attention to whereabouts the dropping is especially taking place, we shall be apt to assign a false locality to the lameness. For example, if lame in a fore limb the animal's *head* will rise and fall, or ‘nod,’ as he limps along; whereas, when the lameness is seated in a hind limb, the *croup* will be the part which will manifest these risings and fallings, or ‘droppings.’ For the young—very often for the more experienced—practitioner, it is a good rule to withhold any opinion about the lameness until the horse has been run both from and to the observer.”

Having discovered the lame leg, we have to learn the cause of the lameness; and here

“An observant practitioner will often be able to derive a good deal of information concerning the locality or seat of lameness while he is watching the action of the horse with the view of ascertaining the lame leg. The *tread* or *stepping* of a horse is sometimes found very characteristic, at other times his *gait* or *mode of*

projecting his lame limb is an indicative symptom. How different, for example, will be the going of a horse lame in the foot from one that is lame in the shoulder!—in one instance the animal will boldly advance his limb, but fearfully place his foot upon the ground; while in the other case he will shew impediment or difficulty in projecting the same limb. It will be observed whether he turns his toe unnaturally inward or outward, or whether in going he treads most upon the heel or upon the toe of the foot: on which last circumstance further and more correct information may be obtained by inspection of the shoe of the lame foot, the parts worn indicating the greatest pressure or habitual tread of the foot.”

After which, in order to confirm our diagnosis—

“ With this information, and with all that can be learnt besides from the horse’s manner of going and putting down his foot, the veterinarian, as the horse stands before him, sets about inspecting the lame limb, and examining it in every part with his hand. Some lamenesses are perceptible to the eye, and discoverable by the eye better than by the hand; others are detectible by the hand alone; while, again, there are others that elude detection by either eye or hand, and which can be judged of through the action alone, aided by the horse’s manner of standing. A quick eye, judging from the general appearance of the lame horse and from his mode of going, even in the absence of any manifest disease or defect to account for the lameness, will very often discover at once the seat and nature of it: on the other hand, a man accustomed to the feel of legs and feet will, in the dark, be able to detect the seat of ordinary lameness as well as if he had actually been looking at the parts he has been feeling.”

We take credit for having read most of the works on veterinary surgery and farriery that are to be met with; but in none of them, or rather in all of them put together, never have we met with one tithe of the information here conveyed. In those incipient but fearful diseases of the joints, commencing and developing themselves so insidiously that their existence even, and much more their actual seat, require all the tact and nicety of the practitioner to recognize them, we cannot too well bear in mind that

“ Inflammation taking its rise in the synovial membrane, being, generally speaking, *sub-acute* or *chronic* in its character, we are not to expect any very striking increase of temperature; neither are we to look for any thing beyond *fulness*, by way of swelling, seeing that the increase of synovial fluid is but very moderate and that, unless the case be one of combined sprain, there is no very

remarkable infiltration into the surrounding integument. A careful and deliberate examination, however, will seldom fail to detect heat, if not swelling, of the joint affected, or in its immediate vicinity; and there is no better way of arriving at this ascertainment—one of the utmost importance to us in determining the nature of the case—than that of repeatedly comparing the grasp and feel of the supposed lame joint with the correspondent joint of the sound limb: one feels warmer and rounder or fuller than the other, the perception of its natural prominences being obscured or obliterated by this fulness. Should the joint be one of those incased within the hoof, out of the reach of the hand, though no fulness be perceptible upon the coronet, still heat may be felt there or within the hollow of the heel, to a greater amount in one foot than the other: added to which, in a case of foot lameness, it is of great importance that we should pay every attention to the form and condition of the hoof. It is possible that, by compression or some artificial motion given to the supposed lame joint, we may succeed in eliciting some further indications of tenderness in it: these are signs, however, upon which we cannot often rely. When we come to talk about the animal's "flinching" from this or that twist or squeeze of the hand, there is apt to be so much deception from some unusual sensitive or nervousness or fear the horse may evince under examination, or else from lack of these attributes, that it is difficult, in most cases perhaps impossible, to come to any safe conclusions from such manipulations."

Of the causes and progress of the disease in question we have a most full and satisfactory history; the various modes of treatment are practically stated, and their comparative merits impartially considered. There is no empiricism; not a remedy is given without the principle on which it is recommended being given also; and the straightforward manner in which the uncertainty and inefficacy of some of these are pointed out is highly praiseworthy.

The promise of further investigation into rheumatism in horses we shall not forget: fully agreeing as we do with our author, that it is an affection much more frequently met with than practitioners in general are aware of, the consideration of this, and lamenesses depending on disease of some of the chylopoietic viscera, will form valuable addenda to the author's labours, and we may expect to find some new and important views arise from them.

Having thus long lingered on the threshold, what chance have we of giving the slightest sketch of the contents of the volume? None, and therefore we will not attempt it; and with a few words as to the getting up of the volume we must conclude. We are delighted to see the aid of the fine arts enlisted in the cause of science. "Amicus Plato," we love science; but we love the fine arts also. With two other volumes only in the veterinary library do we put this on a par—Coleman and Turner—both on the foot of the horse. The lithographs are accurately and carefully drawn, and, where the subjects have been favourable, present a most truth-like appearance; and this, aided by—with some one or two exceptions, where a little exaggeration is perceptible—very delicate and artistic colouring, brings the specimen most fully before us. We have here not the mere book-maker, not the poor wight writing for his daily bread in his lonely garret, but the man of letters, indulging in the laudable desire of coming before the public in a form that may, perhaps, but indifferently fill his pocket, but must secure the respect and esteem of all those who wish to become familiar with the nicer shades of their profession, and are desirous of seeing the fruits of that profession scientifically gathered and elaborately and permanently recorded.

THE VETERINARIAN, MAY 1, 1849.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

THE unusual number of "Original Communications" which have poured in upon us for entry in our Journal for the present month, coupled with the unusual length to which three of them in particular run, have shut out from our pages our "Extracts," as well as other matters of interest. Among other articles has arrived a "Review;" with which, in consequence of its object being a veterinary work better known to us than most literary works are, we have, in truth, hardly in our own mind known what to do. Were we to refuse insertion to it, we should offend a gentleman who,

most assuredly, has acted in a very different manner towards us; and yet, in giving a place to it, as we have deemed it our duty to do, we have run the risk of bringing our subscribers upon our back, charging us with vanity, and all sorts of unpleasant things besides. One thing we can safely vouch for, and that is, so far from having, either directly or indirectly, had any hand in concocting the said review, we knew nothing even of its existence until the very minute it came per printers' emissary into our hands. To say we are unconscious of having seen the hand-writing before, would be to tell an untruth: indeed, it is the very surmise of who the writer is that induces us to apprehend he has been

To our faults a little blind,
To our virtues much too kind.

Verily, it requires more fortitude to withstand the gilded apples of praise than to face the shafts of envy.

MR. Read's "Essay" claims the attention of our agricultural friends. There are not few veterinary surgeons who, nowadays, combine agriculture with their professional pursuits. This is no more than the offspring looking back upon its parent. Veterinary science, we know, sprang from an agricultural society, and the offset soon became strong enough to support itself. Of late years, however, there has been a sort of reversion of our profession back again upon the agricultural world; and this at the present day is evidently on the increase. There is nothing like the close relationship in science between agriculture and the veterinary art which there is between the latter and the science of medicine; and yet the connexion, the *feeling*, is manifestly the other way.

MR. Gloag's "Experiments," testing the expansive capabilities, as well as actual expansion under weight or action or both, of the horse's foot will be read with doubts and apprehensions. For our own part, until we learn the results of the concluding experiments—which we shall next month—we refrain from offering any remarks on them; though, in respect to the *general* physiology of the foot, as accepted at the present day, we must be allowed to observe, we have in our own mind long suspected there is "something rotten in the state of Denmark."

OUR veterinary readers will not forget "that the first Monday in May" (the 7th inst.) is the day appointed by the Charter for the holding of the General Meeting of the Members of the Royal College of Veterinary Surgeons."

MISCELLANEA.

EXTRAORDINARY DESTRUCTION OF WASPS.

THE Earl of Traquair had for several years given a liberal reward to the children in the neighbourhood for destroying those destructive insects during the months of April and to the middle of May, as it is understood that at that period every wasp is the parent of a nest of some thousands. Owing, it may be supposed, to the limited fall of rain or snow during a recent winter, these noxious creatures were unusually numerous in the spring, as the following account will shew. The children, about fifty in number, were desired by his lordship to attend at Traquair House with their spoil every Saturday afternoon, where they were counted by his lordship's gardener, and each one paid so much per dozen. The following has been the result. April 26, 756 dozen, weighing 2 lbs. 1 oz.; May 3, 114 dozen, weight 6 oz.; May 10, 59½ dozen, weight 2½ oz.; May 17, 643½ dozen, weight 11½ oz. Total, 1573 dozen, weight 4 lbs. 9½ oz.; making the incredible number of 18,876 wasps' nests destroyed in four weeks, and in one parish. It may be presumed, if each of these had been allowed to multiply, however favourable the season might have proved, there would have been but little fruit or honey left for miles round.—*Caledonian Mercury*.

THE OAK PLANTED BY SQUIRRELS.

THE general truth, that nothing is created without some wise purpose is beautifully illustrated in the case of the squirrel. It is a singular but well-authenticated circumstance, that most of those oaks which are called spontaneous are planted by this animal, in which way he has performed the most essential service to mankind, and particularly to the inhabitants of England. It is related in some English work, that a gentleman walking one day in the woods belonging to the Duke of Beaufort, near Troy-house, in the county of Monmouth, his attention was diverted by a squirrel, which

sat very composedly on the ground. He stopped to observe his motions: in a few moments the squirrel darted to the top of the tree beneath which he had been sitting. In an instant he was down with an acorn in his mouth, and, after digging a small hole, he stooped down and deposited the acorn; then covering it, he darted up the tree again. In a moment he was down again with another, which he buried in the same manner. This he continued to do as long as the observer thought proper to watch him. This industry of the little animal is directed to the purpose of securing him against want in the winter, and it is probable that his memory is not sufficiently retentive to enable him to remember the spot in which he deposited every acorn. The industrious little fellow, no doubt, loses a few every year: these few spring up, and are destined to supply the place of the parent tree. Thus is Britain, in some measure, indebted to the industry and bad memory of a squirrel for her pride, her glory, and her very existence.—*Sturtevant's Lectures on Preaching*, p. 296, note.

THE THREE GREAT PHYSICIANS.

THE celebrated physician, Doumoulin, being surrounded at his last moments by several of the most distinguished doctors of Paris, who vied with each other in expressions of regret at his situation, "Gentlemen," said he, suddenly, "do not much regret me; I leave behind me three great physicians." On their pressing him to name them, each being sure his own name would be among the number, he briefly added, "Water, Exercise, and Diet," to the no small discomfiture of his disappointed brethren.

VALUABLE USES OF HORSE CHESTNUTS.

M. CHEVAILLIER says that the horse-chestnut may be employed as a nourishing food for animals, and to fatten poultry, in a paste or powder, deprived of the shell and bitter principle. He thinks, moreover, that it will furnish an amilacious fecula capable either of being used as food, or of being converted into glucose or alcohol; a paste fit for cleaning the hands; a glue useful for bookbinders, weavers, and upholsterers; a product suited to the fabrication of pasteboard and writing paper; an oil well adapted for burning, and a resin which may be usefully employed in varnishes; a saponaceous water proper for bleaching linen and purifying hemp: it may also be employed as fuel, the ashes of which may be employed to yield potash, useful in certain diseases of domestic animals, &c.

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CONTRIBUTIONS TO THE PATHOLOGY AND PRACTICE OF
VETERINARY MEDICINE.

By W. HAYCOCK, *Veterinary Surgeon,*
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King-street, Huddersfield.

FIFTH CONTRIBUTION.

Inflammation of the Bowels, &c.

CASE I.

Sept. 3d, 1842.—Was requested about eleven o'clock. A.M. to attend upon a mare belonging to Messrs. Eastwood, dyers, &c. near this town.

History, &c.—The animal is of a bay colour, more than half-bred; stands fifteen hands high; is considered to be sixteen or seventeen years of age; is used for general work, sometimes for the saddle, at other times for harness purposes; her labour is pretty regular, and never, I believe, very heavy. She has been the property of the firm about thirteen years, during which period she has always been a very healthy animal; indeed, from what I can learn, this appears to be the first attack of illness she ever had. The cause of the present attack is not known, or at least had not arisen from improper treatment.

Present symptoms.—She is uneasy; paws occasionally with the right fore foot; the eye is dim; partial sweats are present over various parts of the body, about the shoulders, the left side of the neck, the right and left flanks; occasionally, she turns her head to the right side and looks at it anxiously, also shakes her head, then lets it droop; ears warm, extremities moderately so; extremities have a fine glossy appearance; occasionally she lies down, but does not exhibit great violence when down; intervals of calm exist of ten or fifteen minutes' duration; her tail is continually moved from side to side; pulse 60, and strong; respira-

tions 16 per minute; sighs at times; respiratory murmur clear throughout the chest.

Treatment, &c.—Bled to the amount of eight pounds. Gave a draught suitable for the case, also an enema of warm water and soap; extremities to be bandaged, and surface of the abdomen to be hand-rubbed for fifteen or twenty minutes.

Two o'clock, P.M.—Cannot detect, on the whole, any visible improvement, nor yet can I say the animal is worse; not voided any dung or urine since the attack; attempted to back-rake, but found the rectum quite empty. Gave the following in a drench:—

R	Aloes Barb.....	3iv
	Calomel.....	3j
	Tinct. opii.....	3ij
	Spt. nitric	3j
	Aquæ	3vj

Repeat the injection, and afterwards have the animal walked gently about.

Five o'clock, P.M.—Mare still uneasy; pulse 56; respirations 18 per minute; surface of the body more dry than in the morning; looks at her right and occasionally also at her left side; grinds her teeth; extremities somewhat colder than natural. The extremities and surface of the abdomen to be well hand-rubbed, then re-bandage the extremities. To have also some warm gruel or chilled water to drink. She drank about two quarts of the gruel pretty freely, and then laid down apparently with less pain than she had shewn for some time.

Eight o'clock.—Since five o'clock, until within the last fifteen minutes, she has been very easy; now she is worse; the old symptoms are present, and, if any thing, more intense in character than before. The abdomen, over its whole extent, to be fomented with large quantities of hot water; the fomentation to be continued for an hour at least; the abdomen to be immediately afterwards wiped dry, and fresh clothing and bandages applied to the body and extremities. Gave the following in a draught:—

R	Aloes Barb.	3vj
	Sodæ carbon.	3ij
	Calomel	3ss
	Spt. nitre	3ij
	Aquæ.....	3vj

I attempted again to back-rake the animal, but the rectum still remained empty, and, what is perhaps worthy of remark, the bowel, on introducing the hand or in forcing it forwards, offered little or no resistance; its contractile force appeared lost: this was the case the first time I explored its cavity; but at the time I paid little attention to it. On withdrawing the hand, the rectum for a considerable time afterwards remained partially open. I next

used an injection of tobacco smoke. These measures combined were productive of good; the pain, in a great measure, subsided; she lay down apparently at ease for many hours. I saw her between eleven and twelve o'clock P.M.; she was then down, and had been for a long time; the pulse, however, maintained an excited character.

4th, Eight o'clock, A.M.—This morning I learned that the mare appeared to remain easy from the time I left her last night to within the last half hour. From the period I last saw her to the present she has not dunged; but she has staled once. Now she is evidently suffering under a return of pain; she paws the ground; jerks her head upwards in a very impatient manner; the extremities are moderately warm at the first touch; but if the hand is held upon any part of one for a time, a coldness is perceived, of a character which I scarcely know how to describe; pulse 76, and easily compressed; respirations 17 per minute; no dung in the rectum, and very little contractile force in the bowel. Repeated the tobacco enema; fomentation with hot water to be again repeated; hand-rub the extremities. Gave the following in a drench:—

R	Aloes Barb.	3ij
	Ol. crotoni	M.xx
	Spt. nitre	3ij
	Aquæ	3vj

After the fomentation, when the abdomen was become dry, I rubbed in over its entire length about four ounces of mustard mixed in four or five ounces of strong vinegar. In spite, however, of every measure to the contrary, the mare gradually became weaker, and the disease gained strength. She continued through the day, sometimes better and at other times worse: she died during the night. The symptoms, from the beginning to the close, varied but little, and she never dunged during the whole course of the disease.

*Examination, eleven hours after death. Digestive Organs:—*The stomach was about half filled with food, and in a semifluid state; in the midst of the mass was a portion of a ball I had given to her some hours before. The mucous membrane of the stomach was very white in colour; the same also with the mucous membrane of the small intestines. The small intestines contained brown semi-fluid matter, and a great deal of gas; at the termination of the ileum were three black spots, each of about the size of a five-shilling piece. The blackness was common to all the tissues of the bowel in that particular part. The cœcum exhibited a large black spot, similar to the above described; in every other respect it was normal. The colon for about twelve or fourteen inches in length

was almost, I may say, wedged with masses of fecal matter in a somewhat dry state. This fecal matter consisted, in a great measure, of hay and straw, very little changed by the action of the stomach and bowels upon it. I picked out several pieces of hay and straw at least two inches each in length; in fact, the masses were principally composed of such. The tissues of this bowel were extensively inflamed, but the inflammation itself did not appear to have been of a very severe or very acute kind: a small portion of lymph was effused, which was of a dirty pale-brown colour. The rectum was completely empty, and apparently free from inflammation; the tenacity of the tissues of all the bowels was feeble: I tore them up with very little force; the mesentery and omentum were free from disease. The liver was of the colour of clay, and its substance easily broken up.

Urinary Organs.—The bladder contained about a pint of urine; its mucous membrane was very pale; the ureters were healthy; the kidneys also, and moderately firm.

Organs of Circulation.—The heart, its valves, &c. were healthy, but pale; its right ventricle contained a dark clot of blood, not very firm, but free from fibrinous clots: a small clot was also in the left auricle, of a similar character. The large arteries and veins were normal. The weight of the heart, when free from the aorta, &c. was eight pounds six ounces and a half, avoirdupois.

Respiratory Organs.—The nasal passages, the larynx, trachea, bronchial tubes, &c. were perfectly normal; and the lungs crepitous throughout. The right lung was a little congested; the left lung slightly so in its most inferior parts; the pleura was perfectly healthy.

Brain, &c.—The brain was moderately firm, and its membranes free from blood, or nearly so: the medulla spinalis was very similar in every respect. I also examined some of the large nerves, but failed to detect any abnormal state in their tissue.

Muscles of Animal Life.—The muscles of this class were normal; the colour of them was good, and their structure moderately firm.

CASE II.

June 18, 1843.—Was requested by Mr. J. B. to examine a mare.

History, &c.—The animal is a mare of a bright bay colour, nearly three parts bred, stands sixteen hands one inch high, is six years old, was bred by a farmer who resides in the neighbourhood. Three years ago the mare in question had a severe attack of pneumonia, for which she was bled, and also blistered on both sides of the chest, besides

being subject to other treatment considered suitable to the case : from this attack, however, she has never thoroughly recovered : she is considered to be affected in her wind, and she is also troubled with a severe deep dry-sounding cough. The cough is generally violent after drinking water, after coming in from a long journey, and during the prevalence of close, damp, or foggy weather. She is also subject to attacks of ophthalmia, to grease, and during the last twelve months she has suffered twice from colic. Latterly, the cough has increased in intensity, and from this circumstance my assistance is sought.

Present state.—The mare has a cheerful appearance ; the hair over the surface of the body is dry looking, and her skin does not possess that loose oily character which is to be observed in horses perfectly healthy ; her appetite is good, and the tongue clean ; pulse 38, and respirations 13 per minute. The mucous membrane of the nose has a very pale dry appearance ; the cough is hard sounding, and moderately deep. The respiratory murmur through the left lung is perfect ; towards the bottom of the right lung it is entirely absent.

I told the owner candidly that I was afraid I could do the animal but little good ; that, in fact, the only good I could do would be to improve the tone of the general system. To this he at once consented, and various measures were resorted to which had the effect of materially improving the health. I continued my treatment for a period of twelve or fourteen days, at the end of which time, I lost sight of her until the 12th of the following month (July), when I was again requested to attend. I learned from the person who came for me, that my treatment had greatly improved the mare in every respect, save that of removing the cough ; that the owner being anxious for its removal, had mentioned the subject to a friend of his who was considered to be greatly skilled in horse-flesh ; that this friend advised him to give the mare some balls in which powdered opium was the principal remedy ; that such balls had been given to her, one night and morning during the last eight or ten days ; that each ball contained a quarter of an ounce of opium ; that the cough in consequence had been less severe ; that during the last three days the mare had never been observed to dung ; and that about an hour ago she began to exhibit symptoms of violent abdominal pain. Such is the sum and substance of what I learned after a great deal of cross-questioning and close inquiry, which was afterwards confirmed by similar statements made to me by the owner himself.

Present symptoms.—The body is covered with a profuse, cold, clammy sweat ; the abdomen is very tense and round ; the extre-

mities are fine and glossy; the mucous membrane of the nose is of a pale blue colour; the mucous membrane of the eye is intensely congested, and the eye dim and sleepy looking; the tongue is soapy, and of a yellow colour; she is uncommonly heavy and stupid in her movements when not down, not appearing to have the least notion of any thing said or done to her; the pulse I cannot count with any certainty, but it appears to be beating about 80 per minute; she is uncommonly violent and restless; occasionally she will stand perfectly still for a few moments, then dash herself with dreadful force upon the straw, roll violently over, and lay upon her back for several minutes; then rise again, wander round the box, and again commence rolling.

Treatment.—I had recourse to various means to give relief, but without avail. I bled largely, administered injections, back raked, applied hot fomentations when possible, but in spite of all the mare died in about an hour after I arrived to her assistance.

Examination, two hours after death.—*Digestive Organs:* The stomach and intestines (small and large) from nearly one end to the other were most intensely inflamed, and the inflammation appeared alike common to all the structures of the bowels; the blackness was the most complete over the serous membrane of the small bowels; and what was the most singular, was the enormous quantity of food and fecal matter which these organs contained: they appeared, in short, to be literally crammed with it; throughout the large intestines this substance was in a very dry state, while in the small intestines it was somewhat moister; the surface of the mucous membrane in every part was also in a very dry state: here and there was a little dark glairy-looking fluid, of about the consistence of unboiled white of egg. The liver was greatly softened, and appeared to me considerably enlarged. The food in the stomach did not appear acted upon in the least.

Organs of Respiration.—The mucous membrane of the trachea and the bronchial tubes exhibited patches of blue; the tubes were filled with frothy spume; the lungs were greatly congested with blood of a very black colour, and semi-coagulated; the lower part of the right lung adhered throughout its whole length to the pleura, and portions of the lung were hardened, or presented a gristly character, and perfectly impervious to air; a small adhesion had also formed between the left lung and the pleura; the scirrhus state, however, was not perceptible. The pleura presented a shadowy appearance, but no further change was observable.

Organs of Circulation.—Both the ventricles of the heart were filled with black semi-coagulated blood; the arteries were normal; the veins, in whatever part I examined them, presented a state of

intense congestion, over the surface of the body, underneath the muscles, and, in short, throughout the organism : the weight of the heart was exactly seven pounds three ounces.

Muscular System.—The muscles of animal life were firm in every respect ; but, instead of their natural red colour, they exhibited a peculiar yellow tinge, as though they had been steeped in bile for some time.

Nervous System.—The vessels of the brain and spinal cord were enormously congested ; serum was effused at the base of the brain ; the substance of the brain was firm, and the colour good : the same with respect to the spinal cord.

Urinary Organs.—The kidneys, ureters, bladder, &c. were perfectly normal.

CASE III.

Concussion of the Brain.

April 12, 1846.—Was requested to attend upon a pony, the property of a gentleman residing in this town.

History, &c.—The animal is a mare ; eight years of age ; of a bright bay colour ; stands thirteen hands three inches high ; is nearly thorough-bred ; is remarkable for her speed and great endurance ; she has been in the hands of her present owner about two years and five months, during which period she has not been affected in any way with disease. Her history prior to the last two years and five months I cannot learn ; but from her general appearance, I have no doubt, she must have been from the first a very healthy animal. Her labour is not regularly severe ; she is kept for saddle and harness purposes, and sometimes she is hunted.

This morning the owner lent her to a friend of his, who rode her to Halifax, a distance of seven miles from this town, which place he again left for home at a late hour in the evening, in a state which he (the rider) himself describes as being “ something the worse for drink.” When he had arrived within a mile of the town, the pony either bolted with him, or he flogged her into a furious gallop, and, while she maintained that speed, both she and the rider were rather unceremoniously intercepted by coming in collision with a toll-gate. Other particulars I learned, to the effect that the middle bar of the gate was smashed into pieces with the animal’s head ; that the rider was pitched forward with such violence as for a time to cause insensibility to himself ; that, on recovering, he made many singular observations with respect to astronomical science ; he saw several moons, and an incredible number of double stars ; also beheld a great many ponies engaged

in dancing a hornpipe. Did not recollect how he got home, but was quite sure he was there; has some faint recollection prior to the accident of the mare going rather fast; feels certain that he did not set her off, and that blame cannot be fixed upon him; and wonders greatly how it was that he failed to see the toll bar before running into it.

Present state.—The mare is standing in the stall with her head and neck to all appearance in a very rigid state. Her neck, when the animal is in a state of health, is somewhat arched; now it is the reverse in form, and resembles that of a camel: from the poll to the withers it is deeply forced inwards, from which position the head is necessarily elevated, and she appears as though her attention was intently fixed upon something in connexion with the ceiling; the pupils of the eyes are greatly dilated, and the eyes are totally insensible to the glare of a lighted candle. Across the forehead, above the middle portion of the frontal bones, and about a quarter of an inch in depth, is a depression, which is caused by the solid structures being forced inwards. I cannot, however, detect a fracture, neither is the abrasion of skin considerable: two or three places, each of the size of a sixpence, are all I can discover denuded of hair, beyond which nothing more is to be observed. The pulse beats at 64 per minute, and the respirations are 17 per minute; the extremities are cold, and the skin is covered with a clammy sweat.

Treatment, &c.—The mare to be wiped completely dry; the extremities to be bandaged, and the body warmly clothed. Had the head and neck fomented with hot water; gave an anodyne draught, administered an injection, and left her for the night.

13th, 7 o'clock, A. M.—The pony is standing exactly where she was left last night; the head is elevated in the same fixed manner, and the eyes remain insensible to light. She has not parted with any dung or urine. Pulse 72, and respirations 18 per minute; ears and extremities warm, and surface of the body dry. I abstracted blood to the amount of eight pounds, repeated the injection, and cleared out the rectum. Gave the following in a draught:

R	Aloes Barb.	3vij
	Antim. tart.	3iss
	Spt. nitre	3j
	Aquæ	3vj;

also applied a blister to the poll and on each side of the neck at its superior part; the course of the spine was also strongly stimulated with a powerful liniment.

Eight o'clock, P.M.—During the day the animal has moved about a little; she has also eaten a small portion of bran, and partaken twice of water: pulse 70; respirations 16 per minute: blis-

ters have caused considerable tumefaction over the poll and neck; dung pultaceous; the neck still maintains its peculiar form and stiffness. Gave a gentle anodyne draught, and had her removed into a loose box.

14th.—This morning the pony appears in almost every respect as she did last night: eyes still amaurotic; pulse 74; respirations 20 per minute; has dunged once during the night; the blisters have acted moderately; extremities cold. This morning she commenced wandering round the box. I again very carefully examined the head; I pressed the frontal and parietal bones in every way, but failed to detect any evidence of fracture; yet I feel confident mischief must be going on within the cranium. Repeated injection, and gave, also, another opening draught.

Nine o'clock, P.M.—No visible amendment: she purges a little, but refuses food of every kind; pulse 70; forehead hot; ears and extremities moderately warm; she continues at times to wander round the box: to apply cloths, dipped in cold water, to the forehead, and to give her gruel to drink.

15th.—No better: she wanders incessantly round the box, and always from right to left: if I turn her head the other way, as soon as I leave loose of her she commences again in the old track. Towards night she began to exhibit considerable weakness in the hind extremities; the pulse rose to 84, and respirations to 28 per minute. I again abstracted blood, until the pulse lost its hard character. I left her about nine o'clock, P.M., without perceiving any visible change for the better.

16th.—She continues to wander round the box in the same direction as yesterday; spasmodic twitchings are present in the muscles of the hind limbs; a cold sweat covers the shoulders, the left side of the neck, and along the course of the back; pulse 90; respirations 32 per minute. For the first time since she was injured I am enabled to detect an interruption to the respiratory murmur through the right lung; her neck and head are still carried as rigid as ever. I had recourse to a number of remedies without any avail. About four o'clock in the afternoon she fell, and shortly afterwards became totally unconscious. I told the owner it was out of my power to render any further assistance, and strongly advised him to have her destroyed; he at once consented, and the mare was immediately killed with the knife.

Examination immediately after Death.—*State of the Nervous Centres:* I carefully removed the skull-cap, so as to fully expose the brain and its membranes. The membranes covering the brain were intensely congested with vessels, and very little force sufficed to separate them from the nervous mass; a layer of effused serum was present between the pia mater and the brain; a quantity also

existed at the base of the organ, and also upon its surface above the dura mater; on the left side, and immediately under the left parietal bone, was a small clot of blood in semi-coagulated condition; the left parietal bone was fractured along its inner table, but the fractured portions were not in the least displaced; the tissues immediately surrounding the fracture were greatly inflamed; the substance of the brain was moderately firm, and clear in its colour. Between the inner surface of the membrane immediately investing the spinal marrow and the spinal marrow itself, was a considerable effusion of serum, which appeared to be present the entire length of the medullary substance; the investing membranes themselves did not present any trace of inflammatory action, neither were they congested at all. The lateral ventricles of the brain were filled with serum, and the vessels of the plexus choroides were replete with red blood.

Abdominal Viscera, Urinary Organs, &c.—The stomach, large and small intestines, liver, spleen, peritoneum, &c. were beautifully healthy; the urinary organs were healthy also; the bladder was moderately full of urine.

Organs of the Chest.—The chest contained about a pint of fluid; the right lung was considerably inflamed towards its lower portion—hepatization, in fact, had taken place; the superior part of the lung was crepitous; the left lung was sound throughout; the pleura was healthy; the heart was normal in every respect, and when divested of its large vessels, &c. it weighed exactly seven pounds five ounces avoirdupois. The muscles and bloodvessels were all normal.

CASE IV.

Disease of the Spleen in a Pointer Bitch.

Jan. 10th, 1846.—Was requested by Mr. George Hicks, of Bradly Mills, in Huddersfield, to attend upon a pointer bitch.

History, &c.—The animal is now fourteen years of age, of a white colour, and very well bred; has been the property of Mr. Hicks during the last thirteen years. During the last four years the abdomen of the animal has gradually increased in size, and now she appears as though she was very heavy with pup; her appetite, generally speaking, has remained good: at times she is subject to fainting fits, but the fits are never of long duration, and they appear to have commenced about six months after the enlargement of the abdomen was first noticed; latterly she has begun to lose flesh, and also to have a discharge of matter from the vagina. I placed the bitch upon her back and examined the abdomen externally as well as I could. The enlargement is not circumscribed;

on the contrary, it appears to occupy the whole of the abdominal cavity. If I press hard it is like pushing my closed hand into very thick clay, and once or twice I clearly detected a slight gurgling noise, as though fluid was displaced: pressure does not give pain unless I push somewhat violently. I was unable to give the owner any positive opinion as to the real nature of the disease, but I informed him that it probably proceeded from an enlarged liver, and recommended gentle doses of calomel and jalap. I heard nothing more of the case for some weeks, when I was informed that the animal had lost the use of her hind limbs, and it was deemed best to destroy her, which accordingly was done by the administration of prussic acid.

Examination immediately after Death.—On throwing open the abdominal cavity a large mass was presented to view, of a circular form, which, viewed in reference to the position in which the animal is laid, may be said to have its inferior surface resting upon the bowels. The thickest part of the mass is through its centre, which measures nearly four inches in depth; from this centre to its border, all round, it gradually becomes thinner: its superior surface is covered by the omentum. The tumour admits of being readily broken up, and its solid portion consists entirely of firm coagulated fibrin, which is coated with a layer of the red portion of the blood. In immediate connexion with this mass is a small portion of the spleen, about three inches in length and two in breadth, which is the only part of the spleen to be found. The weight of the entire mass was eight pounds avoirdupois. Every other organ throughout the system was normal.

Remarks.

The cases numbered I and II present characteristics worthy of remark: in both of them a palsied state of the intestinal organs was present. With respect to the first, it is somewhat difficult to positively assign a satisfactory cause for such a condition; in the second, it admits of ready explanation. It is, I think, somewhat anomalous to observe palsy of the intestines associated throughout with an acute or subacute state of inflammation of its tissues. The cases submitted to the reader are the only two of the kind out of the great numbers which have come under my care. I have frequently observed palsy of the intestines supervene in acute cases of enteritic disease a short time prior to death; but I believe it is far from common to observe the two associated from the commencement. “Paralysis of any of the muscles of organic life rarely takes place to any extent, and is indeed incompatible with the continuance of life, unless in those viscera which are particularly influenced by volition, as the urinary bladder, the sphincters, &c. A

temporary state of relaxation, or loss of the contractile power, of portions of the alimentary canal, not infrequently occurs in the course of various disease, and constitutes a part of the pathological conditions obtaining in inflammations of this canal, in colic and ileus, in lead colic, in hysteria, &c. : but it rarely continues for any considerable period, at least in a complete form, and in the same portion of the tube, without being followed by a fatal result*." The loss of the contractile force peculiar to the bowels in the second case was unquestionably due to the administration of the large quantity of opium given for the purpose of removing the cough with which the mare was affected : it appears, in fact, that she had not less than five ounces and a half of the drug forced into her during the course of eight or nine days ; the gradual effect of which was, to destroy the functions of the great nervous centres of organic life ; from which resulted, as consecutive effects, the loss of the peristaltic motion of the intestines, and the production of the severe inflammatory action in the intestinal tissues, from the presence of impacted food and fecal substances in its canal ; and, lastly, the loss of the heart's action, with congestion of the entire venous system as consecutive upon it. It is not at all improbable that inflammation of a subacute nature had been going on for some days prior to the very acute state manifesting itself ; possibly it commenced when the mare ceased to void any dung ; but owing to the deadening influence of the opium, no such change for a time was detected. Ere I conclude the observations upon this department of my contribution, I may observe, that diseases of the digestive organs of the horse have hitherto not been regarded with the care necessary to establish a basis of that scientific character in any way approaching what pathologists have done with reference to the same class of diseases in the human subject ; our best treatises offer to the reader nothing more than a bare outline of some of the principal features of such affections ; all is crude and unsatisfactory. In defence of this it may be urged, that, although such is the case, yet the treatment necessary to afford relief is the same, consequently it can make no difference in the end. To this I have simply to remark, that it is better to know the truth than to partially comprehend it ; and until we do fully comprehend the truth, it is absurd to affirm any thing about sameness of treatment, and so forth : it is tantamount, in fact, to saying, that we have arrived at the end, and that all further endeavour at improvement is vain. With regard to Case III, I have no particular remarks to offer respecting it : it is interesting to the veterinary pathologist as shewing the course (in this instance) of disease arising from the

* Dr. Copland's " Medical Dictionary," vol. iii, pp. 14 and 15.

infliction of great violence to the bones of the cranium, and the membranes investing the sensorium. With reference, again, to Case IV, I freely confess I am abroad in every way upon it. I offer no explanation as to the mode of its production; for, viewed in whatever aspect the reader may choose, difficulties and anomalies present themselves. I am unable to find any record of such a condition of the spleen having ever being observed previously in either the human or brute species. I have carefully read over the article on "Diseases of the Spleen" in the "Cyclopædia of Practical Medicine," but am unable to find any allusion to such a state as the one in question. The author (Dr. Bigsby) enumerates several anormal states of this organ, such as inflammation, acute and chronic—hypertrophy—atrophy—suppuration—softening—induration—ossification—hemorrhage—rupture—hydatids—melanosis—calculous deposits, and, in short, many others, but not absorption of its entire substance, and the deposition of fibrinous clots in its place. I therefore present it to the profession as a pathological curiosity of its kind.

Erratum.—In p. 181, line 21 from the bottom, for "fifteen hands two inches and a half high," read, *fifteen hands three inches and a half high.*

EXPERIMENTS ON THE EXPANSION OF THE HORSE'S FOOT.

By J. W. GLOAG, V.S. 11th Hussars.

[Continued from p. 257.]

ALL the preceding experiments were performed with a view of ascertaining the amount of action of the foot under ordinary circumstances of shoeing; but if we consider the state of the foot of an unshod horse, it is in every way different. In a state of nature, the horse very seldom treads upon a perfectly flat surface; or if he does, it may be a yielding surface, and a very different action may go on in the foot to that when the horse is shod. From long observation I was fully aware that, under varied conditions of the foot, a different action was produced in it, and with the view of demonstrating this action, I continued these experiments.

14th Experiment.

Upon the fore foot of a cart-horse, which was moderately concave, and cut off at the coronet, a slit was made with a very fine saw down the hoof on the inside quarter, in the direction of the laminae, through the crust. A flat plate of iron was then applied to the

under surface of the foot, lying evenly up to the heels, and to the coronet bone a piece of wood was fitted, which had a flat upper surface. Pressure was applied in a vice, the wood and the iron being the opposing surfaces.

Result.—The crack closed immediately.

Observations.—The crack closed in this case, shewing, as I conceive, that where yielding backwards of the horny box can take place, it will do so. If there had been no crack in the hoof, no yielding backwards could have taken place, as the hoof itself, resting perfectly close on the shoe at the heels, must first be forced into the iron before this backward motion of the foot could be accommodated. In cases of sandcrack, where a shoe is applied which totally relieves that portion of the quarter of the foot posterior to the crack from pressure, we may remark, that the crack will visibly open considerably more when the horse is in motion than it would do if the shoe rested posterior to the crack; thus shewing that this backward action of the foot will go on if it is not prevented.

15th Experiment.

Subject, a cart-horse, with good feet, moderately concave.

To the near fore foot a shoe was applied greatly sprung at both heels: this shoe had a thin bar of iron welded to each heel at its under surface, and lying across the shoe.

Result.—As soon as the horse was made to stand upon this shoe, you could see a visible descent of the foot downwards and backwards, and you could also feel it; and at every motion of the animal this action of the hoof could be seen and felt. With a view of measuring this descent, the space between the iron bar and the frog was filled up with prepared wax (the upper surface of the iron bar having been first well oiled). The horse was now made to walk about, when I could perceive that the heels of the foot descended nearly to the heels of the shoe, and there was an immediate descent of the wax on the iron bar. On the foot being lifted, the heels resumed their natural position, and there was now a space between the wax and the iron of nearly one-fourth of an inch.

16th Experiment.

Subject the same. To the off fore foot a shoe was applied sprung at both heels, and on the horse standing on this shoe the same effects followed as in the preceding case. A small piece of iron was now made to fit the space at one heel where it was sprung, and it was pushed in to prevent this spring acting.

Result.—The heel which was at liberty descended, but not to the same extent as when both were at liberty.

17th Experiment.

Similar experiments were made on the dead fore foot of a cart-horse in the vice, by giving pressure by means of a piece of wood accurately fitted to the coronet bone, this piece of wood and the shoe being the opposing surfaces.

Result.—On the pressure being applied and continued, the whole foot yielded backwards and downwards, until the heels of the foot touched the heels of the shoe, beyond which it could not descend. On the pressure being relieved the parts resumed their natural position.

Observation.—This appears to me the natural action of the foot, that is, to yield slightly downwards and backwards in the direction of the fibres. On looking at a shoe taken off a horse's foot, we often see, besides a brightening at the heels, a regular indentation in the iron, as if it were caused by constant pressure: it may be that, instead of there being any lateral expansion when the foot comes to the ground, there is a slight contraction, from the bulging out of the superior parts of the hoof; and in support of this we may further notice, that this brightening of the shoe at the heels never proceeds outwards, but rather inwards. Practitioners are all fully aware what great relief of lameness is obtained, in many cases, by merely springing the heels; hence also the extensive use of the bar-shoe (not pressing upon the heels), which, by the elasticity of the frog, allows a certain degree of freedom to the heels.

Many farriers succeed in giving ease to a lame horse by shoeing, whilst others fail in doing so; and most frequently this is done by springing the heels and making the shoe wide and easy: these cases are of every day occurrence. Again, how many horses, on being fresh shod, go tenderly and painfully, and after a few days all is well again. May not this arise, partly, from the shoe being laid firmly to the heels, and after a few days a certain degree of wear taking place of the inferior border of the crust at the heels and quarter of the foot, the natural action and freedom of the animal being so restored? How many lame horses obtain ease by placing fresh leather under the seating of the shoe, or sometimes only under the heels and quarters. Cloth and felt are used extensively by horse proprietors in this way, and they can attest their value; and may not the ease obtained by the use of these articles be accounted for on these principles? I believe practitioners will agree with me, that a shoe having a strong bearing at the heels is prejudicial for general use, however they may differ from me in the rationale.

In light horses this downward and backward action of the foot is, I conceive, very slight; but I consider that it should be accommodated, although a great difficulty exists in carrying it out practically in all cases. Again, how common a remedy is it in navicular disease to apply tips to a horse and blister him round the coronet, and it is, I consider, a good practice, and many horses become relieved, or continue sound after this treatment. How can this apparent invitation to a bruising of the already inflamed navicular joint be reconciled, except it may be that we restore by the tip the slightly yielding downward and backward action of the foot, and thus relieve the concussion? What surprising changes take place in the feet of horses wearing tips! After a few months we often find feet which before were dry, and harsh, and brittle, become of a totally different character—tough and elastic, and almost oily, as you cut the hoof: also the rapid disappearance of thrushes. This can only be accounted for, I conceive, by the fact of the different parts of the foot having been brought into natural healthy exercise. Again, how can we account for the hoof becoming wider at its posterior part, under particular states of shoeing, except that it is by allowing parts to be brought into action which were before fixtures? As when a man's arm is confined in a sling it wastes away, but when it is again brought into use the muscles increase in size, so the width of the foot is thus often increased under the use of tips, one-sided nailing, springing of the heels and bar shoes, and elastic materials interposed between the shoe and the foot. Tips, and turning out the animal upon moist land, soon effect a change in the size of the foot, although on a return to the former condition of shoeing and stabling, rapid changes again take place.

18th Experiment,

On the dead fore foot of a cart-horse, cut off at the small pastern.

A portion of horn at the crust was left isolated by making a deep furrow on each side of it, in the direction of the laminæ, and removing the attachments to the horny sole, as also to the coronet. I wished to ascertain how the laminæ seemed to act on the isolated portion.

Result.—I could find that this piece of horn was very readily moved transversely; but when it was pressed from below upwards, very little motion indeed could be produced by the strongest pressure: the whole force of the hand seemed to convey an impression as if there were, at first, the least possible degree of yielding; then, as if no amount of force could produce any effect whatever. Whilst applying pressure from below, and viewing the coronet,

there was a very sensible bulging out of the elastic matter at that part.

Observation.—The laminæ are, I consider, nearly, if not altogether, inelastic in their longitudinal direction; but our talented writer, Mr. Percivall, has demonstrated, so long ago as 1832, in his “Anatomy of the Horse,” page 441, that the periosteal covering of the coffin-bone, to which the laminæ are attached, possesses great elasticity, and therefore that the coffin-bone lies everywhere embedded in springs, whereby all concussion is removed; and I expect that, in the shod state, it is principally by this beautiful organization that the jar is prevented. It becomes a question for future research, whether the movement of the laminæ does not depend altogether on this beautiful elastic covering of the coffin-bone, and whether there may not be some peculiar arrangement of the fibres of this structure, to allow of free movement transversely, but scarcely any longitudinally. If (as all these previous experiments tell us), when a horse is shod up to the heels there is no expansion at the quarters of the foot at its lower circumference; if the sole does not descend; and if the crust of the hoof does not declinate, how is it that the coffin-bone, which is so porous a structure, is not shivered to atoms by concussion?—and yet how rarely does this occur! Nature has been munificent in her protection. This beautiful elastic covering of the coffin-bone, the regular expansion of the elastic tissue around the coronet, the swelling out of the highly elastic materials at the heels, and the expansion of the lateral cartilages, and the elasticity of the horny frog when the foot sinks into the ground, added to which, in the unshod state, the slightest declination or yielding of the whole hoof downwards and backwards in the direction of its fibres, and the bulbous cushion of the frog, highly elastic, as also the admirable symmetry of the joints, their angular formation, and the manner in which the weight is thrown on various parts, not forgetting the beautiful adaptation of the ligaments and tendinous structures, those prime removers of concussion, the suspensory ligaments—these are some of those beautiful contrivances which may well excite our wonder and admiration.

19th Experiment,

On the fore foot of a cart-horse, which was moderately concave, and cut off at the small pastern.

The sole was first removed, and a section of the foot made through the frog, and a shoe, well sprung at the heels, was now applied to the half of the foot, which was then put into the vice, the shoe and the coronet-bone being the opposing surfaces.

Result.—The anterior part of the frog descended, as in the first

experiments ; but the heel and the base of the frog also descended very considerably, indeed greatly, under continued pressure, and they continued to descend until the heels of the foot touched the heels of the shoe, beyond which there was no descent. As pressure was applied, the coronet could also be seen and felt to bulge all round, as also the lateral cartilages and the upper and back parts of the heels, which became hard and swollen.

Observations.—The expansion of the lateral cartilages is, I think, a point so evident, that it hardly requires proving : we may see this action going on in all heavy low-heeled horses, and this expansion when in excess is, I consider, a cause of ossification of the cartilages, and consequent lameness, by pressure, or confinement of the elastic materials within the hoof ; but such horses often work pretty well, or perhaps quite sound, until they are called upon for an extra degree of exertion, when pain and lameness are the consequences. Query, whether a bar-shoe, or a shoe with sprung heels, would afford any relief, by allowing a certain degree of motion of the foot in another direction ? That the elastic tissue expands round the coronet is also, I think, pretty evident in practice, as we may see by the bulge which takes place whenever an accident happens at the coronet, and the difficulty in healing it on account of the motion which goes on at that part. It is probable where this yielding action of the hoof, downwards and backwards, cannot take place, being prevented by the fixing of an iron shoe to the foot laid firmly to the heels, that both the expansion of the lateral cartilages, and also that round the coronet, may take place to a greater extent. It may be from this reason that we frequently observe horses having small feet with prominent lateral cartilages and coronets, as if these parts were performing more than their due share of work in the economy of the foot. Elasticity must go on somewhere, or concussion and destruction will be the result ; and when one set of apparatus is put out of use, others must perform more work, or the machine will perish.

20th Experiment.

Several experiments were made with a view of perceiving, by making a fissure in the hoof and applying a shoe sprung at the heels, or one laid flat to the heels, what would be the effect when pressure was applied.

Result.—In each case I found the crack close, proving that, when motion or yielding backwards could go on, it would do so.

21st Experiment.

Subject, a heavy carriage-horse, with a good foot, moderately concave.

A shoe was made and applied which had a piece of iron welded to the toe, and which stood perpendicular to the shoe, directly straight up, in front of the hoof, as high as the coronet, leaving a considerable angular space between it and the hoof. This shoe was laid on evenly to the heels; the inner surface of the iron was well oiled, and the space between it and the hoof afterwards plugged up carefully with prepared wax, whilst the foot was held in the air. The horse's foot was then put down, and the animal made to walk about.

Result.—There was no change in the wax: it remained exactly in the position in which it was placed, and I could not detect the slightest space between the wax and the hoof.

Observation.—This tends to shew that no declination of the hoof takes place under the common plan of shoeing.

AN ESSAY ON THE MANAGEMENT OF THE FARM HORSE,

CONNECTED WITH THE BREEDING AND REARING OF THE ANIMAL; WITH THE MOST PROFITABLE PLAN OF KEEPING.

By ROBERT READ, *M.R.C.V.S., Crediton.*

“ Order is gain: waste not, want not.”

DISEASES OF THE FOAL.

[Continued from page 244.]

The Foal, when only a few days old, is often attacked with pain in the bowels; lies down, looks round to his sides, paws with his fore feet, and often kicks his belly. On examination, it will be found to arise from constipation, from an impaction of the meconium in the rectum; the milk of the dam not having acted as a purgative in carrying it off. A little linseed oil, with one or two ounces of Epsom salts, must be given, and clysters of warm water injected. Inflammation of the bowels occasionally ensues. You must then take two or three pints of blood: although the foal is only a few days old, there is no danger in bleeding. I have known the meconium become so inspissated as to require manual extraction.

Scour is also a complaint to which the foal is liable. No cause operates so often in inducing it as allowing the foal to suck the dam too soon after her return from work, while the mare is heated, and the milk altered in quality. The mare should be perfectly cool

before the foal be allowed to suck. It is a well-known fact that hundreds of calves are yearly lost by giving them milk only a few degrees warmer than the milk of the cow. Scour or bloody flux is the invariable result.

Castration.

This operation is not usually performed until the colt is from one to two years old. The best criterion as to when the animal ought to be castrated is to observe his external form. If there is a want of crest, or if the shoulders are thin, and his form is meagre, it will be best to defer it for awhile: on the contrary, if there is a disposition in the colt to become heavy or gross, the operation should not be delayed. The month of May is well suited for the performance of the operation; so is September, if the colt is to be operated on before being separated from its dam. The weather and temperature of these months are most congenial for the operation. Very few premonitory steps need be taken before the colt be cut, keeping it without food over-night being all that is required. Let the colt be ever so well castrated, considerable swelling of the parts now and then ensues, which will require to be combated by bleeding, laxatives, and fomentation. Matter sometimes forms, when the incision will require to be opened afresh, to allow its escape. After it is all evacuated, the opening will heal again spontaneously. Should the weather happen to be wet or cold, the animal ought to be housed for a few days.

Hereditary Disease.

I have slightly hinted on the evil of breeding from an animal labouring under any constitutional disease or defect in a former part of this essay: I shall now enter more minutely into this most important subject, viz. the transmission of disease from parents to their offspring. A want of due attention to this in the breeding and rearing of all animals by the farmer, has been attended with more disappointment and loss than any other cause. How obvious is the necessity, then, to select breeding animals, as far as human skill can discover, free from every taint capable of propagation! Even in this enlightened age much too little attention is given to this most essential subject. It is admitted, by human as well as by veterinary pathologists, that disease, temperament, internal and external defect in organization, can be inherited from both parents in their offspring. In the sexual intercourse of the horse, how manifest it is that more circumspection ought to be exercised for improving the offspring, when we reflect on the many living tes-

timonies there are, and have existed, of the fallacy of breeding from imperfect animals. In the brute creation, in which the intercourse of the sexes can be regulated, the influence is strikingly shewn by the improvements which have taken place in the different breeds of animals, and in the alterations of the character of others; thus, how much we have under command by crossing, size, form, bone, action, and temper, &c. Knowing this, of what vital consequence is it to the breeder to avoid all congenital or constitutional defect in the selection of animals intended for propagation! To enter too much into this matter would fill the volume of *THE VETERINARIAN*; but to what extent diseases are capable of transmission the readers of this essay may reasonably inquire.

I should say, perhaps all congenital disease is hereditary, and that I have known accidental diseases become so after awhile. To maintain this argument, a horse receives a blow on the eye; local inflammation is set up, and at last it becomes constitutional, ending in cataract in one or both eyes. The offspring from such an animal, I have many times witnessed, becomes affected with ophthalmia, notwithstanding there was no defect in the eyes of either sire or dam previous to the receipt of the local injury. I have also seen a foal born blind, having a lenticular cataract in each eye, from the dam having been put to a stallion with a cataract in each eye, the result of a constitutional inflammation. It is also my firm conviction that all accidental diseases must make some general derangement or constitutional impression on the system before they can be continued or transmitted to the offspring. The principal maladies in the horse capable of being developed in their issue, sooner or later, are all defective organizations,—ophthalmia, spavin, curb, ringbone, contraction, founder, and broken wind; with almost every other disease of the respiratory organs; also all vicious habits and propensities. The handing down of these defects in the progeny has not received that attention and care it scrupulously requires of the public. Every investigation, and all the ingenuity of man, ought to be directed in tracing out defective formation and disease in animals intended to breed from; and efforts made to arrest the onward progress of hereditary transmission, by shunning those influences which maintain it. Some breeders consider it a difficulty to procure breeding mares or stallions free both from defective form and from proneness to disease. Let us discard all those animals in which defect or bad conformation is visible, and not do as too many of us do, year after year, breed from animals possessing the seeds of disease, and every bad quality evident to the most casual observer. The old and trite saying should never be forgotten—"like begets like." On the subject of breeding in and in, in connexion with hereditary disease, great caution is re-

quired, knowing that the qualities of either sire or dam, in excellence or defect, descend from generation to generation; and that it is likewise the opinion of most breeders that an adherence to one particular breed produces or disposes to degeneracy in almost every animal.

[To be continued.]

THE ACTUAL CAUTERY IN PLEURO-PNEUMONIA.

By ROBERT NICHOLSON, *M.R.C.V.S., Womersley, near Pontefract.*

To the Editor of "The Veterinarian."

Sir,—I PERCEIVE, in your Number for April (p. 199) some remarks on a communication of mine, by J. Z. M., on the treatment of Pleuro-Pneumonia. I gave only a short history of the symptoms and treatment of the case in question, my object being more to direct the attention of the profession to the value of the cautery in cases of debility. It is frequently observed, that blisters and other irritants are far less energetic when applied to a debilitated animal than to one in good health: what will blister in the latter case having frequently little or no effect in the former. I have had, during a long and extensive practice, I may say, hundreds of cases, in which this effect was more or less observable. As to the employment of the cautery in the early stages of this disease, I question how far we should be justifiable in using it, indiscriminately, until other means had been tried in vain. It must be borne in mind, that the usual irritants took no effect upon the skin of the animal, in the case narrated in my former communication. I have not the slightest doubt that this case would have very speedily had a fatal termination but for the employment of the cautery. I have neither time nor inclination to enter into a long correspondence upon this subject. The remarks I made were published with a view to point out a powerful auxiliary in the relief of a formidable disease, and not to enter into physiological discussion upon the nature of the malady in question.

I remain, Sir,

Your's respectfully.

April 29th, 1849.

VETERINARY JURISPRUDENCE.

By JUDEX.

IN the March number of your Journal (p. 167), there is a plan for the reorganization of veterinary schools in France, and a very excellent organization it will be if carried out. I mention it only in reference to the 9th Chair, Jurisprudence, or, as they call it, "Commercial Veterinary Jurisprudence," than which nothing in our art in this country has been so much neglected, nothing so much illustrates our backwardness or more loudly calls for improvement. Nobody appears to be listened to in a court of justice with less attention than a veterinary surgeon; the mysteries of no profession appear to be so easily acquired as those of the veterinary profession. It is the great slur, "the blot in our 'scutcheon;" it makes liars, or worse, of the professional witnesses engaged, on one side, at least, in every horse cause; it makes honourable men shrink from, and weak men tremble at appearing before the majesty of the Queen's representative; it entails an odium as undeserved as it is common on the whole profession as witnesses. Occurring as horse causes do at every assize and in every term, and advancing as the profession certainly is in science as well as respectability, something ought to be done in the way of improvement: we should, at least, all be taught to call the same disease by the same name, and to know as much as a barrister of acute and chronic, and cause and effect. How this improvement is to be brought about I am not prepared to say: it will be too much, I suppose, to expect a chair of jurisprudence at either of our schools; still something might be done there by registering causes and noticing the most important. In the mean time you, as Editor of our leading journal, certainly ought to take the initiative in reporting more fully than you have hitherto done, and from a different source than the *Times*, *Post*, &c.*, those cases which are important, either from the novelty of the question at issue, or in which the veterinary witnesses so differ in opinion that it becomes important, professionally, to know which are right. To illustrate what I have above said, both as regards our inefficiency as witnesses and the slovenly and incorrect mode of reporting you copy from the daily and other papers, let us take a review of the jurisprudence of THE VETERINARIAN for the last year.

First in importance as in date is *Smart v. Alison*. In this case one dealer or breeder sells for a handsome price to another dealer, *both good judges*, a black horse, which in a short time is re-sold at a fair profit: within a short time of the second sale the horse is discovered to be lame, is returned to Smart, who refunds the money,

* What sources does the writer allude to?—E. V.

and entering into correspondence with Alison, requests him to do the same; Alison refuses, never having known the horse to be lame, and thereupon issue is joined. Smart, as plaintiff, must, of course, prove that the lameness, or the disease that caused the lameness, existed at the time he purchased the horse, and for this purpose he brings no less than seven veterinary surgeons, all competent men, who unanimously swear the horse is suffering from chronic laminitis. Now, any one would think there could be no answer to this case: not so, however, thought the counsel for the defence; he was evidently tolerably master of the subject in dispute—he had an idea that chronic must succeed acute, and that if a horse had been suffering from acute laminitis, he must at some period of his life or other have been for a considerable length of time very lame; and such, in fact, was his answer, in which he endeavoured to prove by the man who shod the horse, the groom who looked after him, and other witnesses, that the horse had never been lame for any length of time, and in consequence could never have had acute laminitis, ergo, the disease never could have become chronic. All the professional evidence he chose to call was *not* a veterinary surgeon who had seen the horse, because he knew such a witness in his cross-examination must have admitted that such feet as the animal in question possessed were what, in all probability, could not have been warranted sound, laminitis or no laminitis; but one who could merely reiterate his argument, that a horse could not be suffering from chronic laminitis who had never had acute. The plaintiff got a verdict for the damages he claimed, and I think justly so; and so the case ended. But as regards the profession, I am of opinion we may carry the case a little farther. Assuming the horse never to have been lame long enough to have had acute laminitis, which I think we may believe from the number and respectability of the witnesses who swore to that fact, and no witnesses on the other side were called to prove he had, the question arises (professionally not legally), was he suffering from chronic laminitis, and, if so, what is chronic laminitis? To answer this question at any length would carry us beyond the limits prescribed by this paper, and be rather beside its purpose. It is understood, popularly, to be that state of hoof in which the disease in its acute form has destroyed the laminæ in front of the foot, left a convexity of the sole between the toe and the point of the frog, &c.; medically, and strictly speaking, we know we may and do have chronic or sub-acute inflammation of the laminæ or any other part, that is not preceded by the acute stage, and it is possible: in fact, we have no right to dispute the correctness of the professional evidence, that in this case such chronic inflammation did exist, although how it is to be distinguished from the inflammation in the sole or other parts of

the foot I do not know. In this case, the defence was grounded entirely on the improbability of the horse suffering from the chronic stage of a disease where no acute one had preceded it, the popular view of the question as we may call it, and one much more likely to be understood by juries than the other or scientific one. What other argument the learned gentleman had in store I know not; but the powerful ground he took on the above question must have been cut from under him, had the animal been described as possessing feet unable to stand or perform ordinary work, whether arising from laminitis or not. The fact alone should have been sworn to. The nomenclature in disputed, or I may say doubtful, cases of this sort, may be supplied, if necessary, by the ingenuity of the gentlemen learned in the law.—If in this case there are some discrepancies difficult for the veterinary surgeon to understand, what shall be said of the next occurring in your pages, *Madders v. Moss*, in which the first witness speaks of a lump in the near fore pastern joint? but this we will pass as not professional. The first veterinary surgeon swears he has no spavin, though there is a little deposit about the hock; the next finds a bony enlargement on the *superior spavin*, and a bog spavin on each hock; the third finds a bony enlargement on the *upper* pastern and two bog spavins; and the fourth a bony enlargement on the hock, which was unsoundness. Besides this, the first professional witness, who said he had bog spavins, swears he is not lame; the other, who is of the same opinion that bog spavin exists, swears in cross-examination that he never knew a horse with a bog spavin move without being lame. Now I beg to ask, Mr. Editor, whether you suppose the report of this case in your Journal is of any value? Not even by way of warning can it be so; it is so preposterously incorrect. Can it be supposed for a moment that any veterinary surgeon could speak of an enlargement on the superior spavin, and, by thus substituting the name of a disease for the locality in which it might exist, bring us altogether into disrepute? Impossible! and proves, I think, that you must report from a different source than the newspapers, or *your blank pages* will be of more value*.

The last number for the year contains a case from Ireland, *Nicholson v. Tweedy*, as puzzling to the profession as it can well be. Here, for the plaintiff, it is sworn the horse is lame from contraction, and has the appearance of having been bled in the foot; an appearance about which, to a professional man, there ought to be no mistake. Another veterinary surgeon for the defence swears he is suffering from *acute founder* in both feet, and he did not see

* We conceive it our duty to record every case, as it occurs, without reference to its merits, and we possess no other (different) sources but newspapers.—ED. VET.

the mark in his foot from which he had been bled: the other witness for the defence who, in July, examined the horse, took off his shoes, and saw no appearance of the mark in the foot, was most likely correct, there having been sufficient time for the mark to be eradicated by cutting out. The witnesses in this case differ about the existence of spavin, a disease which, if unaccompanied by lameness, is difficult of detection, and will always be a legitimate object for difference of opinion among veterinary surgeons. But can we say the same of acute founder? does there, ought, or can there be two opinions as to its existence? Is it possible, from our want of a nosology, that two diseases are called by the same name; it seems such must be the case, or, which is most likely, the case has been mis-reported. In the mean time, be it how it may, the profession generally suffer in the opinion of the public from these differences of opinion. To avoid this, by calling the attention of veterinary surgeons to the fact, and to remind them, more particularly the younger members of the profession, that even in a Court of Justice they are really before the public, and that their qualifications as witnesses represent to a certain extent the qualifications of the whole profession, is the object of this paper. And if every veterinary surgeon engaged in a horse cause, and differing in opinion with his professional brethren, would, in the columns of your Journal or otherwise, justify that opinion in a spirit of truthfulness and fairness, differences of opinion might be reconciled, perhaps a little personal acerbity neutralized, and we should be collecting facts of importance sufficient to found thereon a Jurisprudence of our own.

JUDEX.

* * * Would professional persons send us correct statements of their evidence we should have great pleasure in substituting them for the newspaper reports.—ED. VET.

HÆMORRHOIDAL TUMOUR.

By F. F. COLLINS, *M.R.C.V.S.*

Acting Veterinary Surgeon 16th Queen's Lancers.

To the Editor of "The Veterinarian."

Dear Sir,—THE following case being one, I believe, very rarely met with in veterinary practice, I am induced to forward you the particulars for insertion in your valuable columns, if you think it possesses sufficient interest to merit a space therein.

I am, my dear Sir,

Very obediently yours.

Norwich Barracks, 5th May, 1849

B. 12, grey mare, six years old, was sent home to barracks from the drill-ground on the 12th of April, in consequence of the sudden appearance of a tumour protruding from the anus, about the size of a swan's egg, of a bright scarlet colour. The mare being of a very irritable temperament, I examined the tumour with difficulty, and found it firmly attached to the inferior portion of the rectum, about an inch beyond the sphincter ani. I had her tail tied on one side, to prevent it irritating the tumour, and fastened a linen cloth, to hang over the protruding part, saturated with the following liniment:—Ol. lini, 8 parts; liq. plumb. 1 part. Mash diet: no hay allowed. Give ʒij aloës, ʒj hyd. chl. in ball.

13th.—The tumour much the same in size, but darker in colour; its surface is ulcerated. Mare irritable; fæces buttony, and passed in small quantities. Ordered the liniment to be discontinued. Gave ʒiiss more aloës, combined with ʒj zingib.

14th.—Much in the same state: bowels relaxed.

15th.—No alteration in the tumour. Mr. W. Smith, a private practitioner in this city, happening to call on me this morning, I took the opportunity of shewing him the case, and we came to the determination of casting the mare at once. Having done so, I examined the attachments of the tumour: it extended about three inches into the rectum, and was attached to the mucous membrane by a broad expansion of its external covering, which appeared to consist of mucous membrane of an abnormal character, separated from the healthy by an irregular line of demarcation. It was firm and unyielding. I made an incision into the substance of the tumour carefully, and found it to be composed of fibrine, exactly resembling the fibrine of the blood. I carried the incision down to its root, and passed a ligature around the base of each portion, taking care not to include any part of the healthy membrane. Little external hæmorrhage followed: there was bleeding inwardly, however, from two unimportant arteries. On introducing the hand into the rectum, about three ounces of dark coagulum was removed. As the mare rose, each section of the tumour dropped off. I then dressed its root with a solution of arg. nit.

19th.—To all appearance doing very well. Laxative given: diet as before. From this date up to the 24th, the day she was discharged, the parts rapidly healed, leaving no traces of the disease; and up to this period she enjoys good health.

*** We feel obliged to Mr. Collins for this case of a disease which, as he justly observes, is one that has been but "rarely met with in veterinary practice."—ED. VET.

ANOTHER CASE OF MELANOSIS.

By JOHN YOUNGHUSBAND, *V.S., Greystoke.*

Dear Sir,—I FIND by THE VETERINARIAN for May that I have either made a gross mistake in my paper by not expressing myself properly, or perhaps you have misunderstood my meaning. I believe I expressed myself somehow in this manner,—that I had written out the case more as a private correspondence than as one to appear before the public, i. e. in the manner set forth in the paper; but that you were able to sift it, and might use it as you thought proper*. I likewise must beg to say, that I have always been so highly respected by the Editors of THE VETERINARIAN, that it would be a most unwarrantable piece of arrogance in me to offer or to presume to make out a case to which I am afraid to have my name attached, especially as I can vouch for the truth of the statements. For the future, I must try to explain myself better, and subscribe myself,

Your ever respected, though personally unknown friend,

JOHN YOUNGHUSBAND.

To the Editor of THE VETERINARIAN.

I shall give you another history which, if of any value, pray use as you please. It is another case of Melanosis which was brought to me for my opinion, and which, as respects appearances, will turn out to be a formidable case. The subject of examination was a fine light-coloured horse, inclined to a roan, possessing as fine symmetry, strong bone, and good action, as any horse I have seen for a length of time. He belongs to a young surgeon in our neighbourhood with whom I am upon intimate terms, having been made acquainted with his family through business. To give a complete history, or even to attempt one, of the horse's life, I suppose would be superfluous, or of little consequence; suffice it to say, he was formerly the property of the young man's father for several years, and was used generally as a traveller's horse in business, a duty he performed to every rider's satisfaction. Subsequently he passed into the hands of Sir George Musgrave, Bart., of Eden Hall, who

* From the tone of our old and much esteemed correspondent's former letter, we must confess we had our misgivings concerning the publication of the case of melanosis—some particulars of which are given in the Leader of our Number for March—in his name; and therefore it was that we, rather than our readers should lose such valuable matter, most reluctantly, gave the case anonymously.—ED. VET.

used him as his private gig horse, and during that time the disease made its appearance; on which account it was that the present proprietor became his purchaser. He, not liking his unsightly appearance, wished me to use my endeavour to restore him to his wonted genteel appearance.

Examination.—Beginning at the tail, there protrudes from its root two large masses, each of the size of a man's double fist, which partly protrude over the anus, and appear to be perfect melanotic deposit. The whole length of the under part of the tail is studded with tumours of the same character, but small, and of variable size, and hard and unyielding; the whole possessing the melanotic appearance so common to the part. Passing from this part to the sheath of the horse, here again the disease shews itself in a very marked form. Both outwardly and inwardly it is thickly set with small tumours of the same appearance. Passing thence to the sternum, a little superior to it, there is a tumour the size of a hen's egg, which I pronounced to be melanotic (perhaps wrongly), but which my young friend tried strongly to refute, saying, it had been there for two or three years; but this did not shake my opinion, especially as I knew how little such men know of the diseases of the lower animals. There is another tumour further up the neck; but of it I could not speak so decidedly, it being near the bleeding place, though this also looks very suspicious. The horse has a little difficulty in voiding both his dung and urine; otherwise he appears in excellent health and spirits, and in tip-top condition. He performs his journeys well, and is very troublesome to ride in company with another horse.

Now, after viewing the animal, and taking into consideration the case of the old grey mare, I told the young man that the case was a difficult if not a hopeless one, and that, from certain reasons which I pointed out, I declined performing part of an operation, which, to say the best, was only going to be part, as I considered it to be wholly inexpedient to excise the tumours around the anus, or free the sheath from the numerous appendages attached to it. But still, the owner said, the large tumours might be partly excised, so as to give the tail a more genteel appearance. To which I answered, "If only partly, why not let them alone altogether, seeing the horse was apparently doing so well, rather than partly operate, and run the risk of doing a great deal more harm than good?" So I advised him to return home and satisfy himself with the case; if not, to seek advice from some higher power. I make no doubt I could easily have excised the two large tumours, and benefitted the horse in appearance, perhaps, for a short time. This would have been an experiment. But if it had not succeeded—and there is nothing in the case, so far as I can judge, to warrant success—

then would I have been liable, and no doubt rightly, to the ——— of some of the more enlightened part of the profession.

“No one can be too old to learn, or so wise as to need no instruction.”—SOLON.

There is a paper in your Journal for April last, by Mr. Mayhew, which attracted my attention, the perusal of which suggested to my mind the following short remark:—

I have both thought and seen that too many of our College emigrants, when placed in practice in the country, and called on to treat the diseases incident to our domesticated animals, are not the men *pro bono publico*.

But how can the stream flow clear when the fountain whence it proceeds is from all appearances so muddy?

FIFTH ANNUAL GENERAL MEETING OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.

ON Monday the 7th of May, the Fifth Annual Meeting of the Royal College of Veterinary Surgeons was held at the Freemasons' Tavern, Great Queen-street, Lincoln's Inn-fields, at which about forty of the leading members of the profession were present.

At half-past one o'clock, *Mr. Turner*, the President, having been called to the chair,

Mr. Cherry rose to address the Meeting, but was stopped by

The President, who said that was not the time for Mr. Cherry to bring forward the matter about which he wished to speak.

Mr. A. Cherry said, that having been informed that at the previous Annual Meeting persons were present and voted who were not members of the body corporate [*hear*], he begged to request that any gentleman present who had not signed the list would sign his name immediately, when it would be seen if any other persons were present.

Mr. Gabriel, the Secretary, then commenced reading the Minutes of the previous Annual Meeting, and, on coming to that portion of the proceedings relating to the election of the six members of Council,

Professor Spooner said, on that occasion, his name and that of Mr. Mayhew's were placed upon the list of members eligible to be elected as members of the Council, when those who put them there well knew that they were not eligible, and that, if they were

returned, their election would not have been valid. The present meeting was the first one that had been legally summoned.

Mr. Gabriel then continued the reading of the Minutes, and at the conclusion

The President said—Gentlemen, it will now be your duty to proceed to the election of seven members of the body corporate as members of the Council; six to take the places of the six retiring members, and the seventh to fill the vacancy occasioned by the demise of the late Mr. Mayer.

Mr. Cherry said, he was glad that the present meeting was called in a legal manner according to the provisions of the Charter, a Special Meeting being called to be held after the election of the Council.

Mr. Vines differed in opinion from the last speaker; he hoped that, the next year, the Special Meeting would be taken first, and the accounts gone into before the Council are elected, and not for the meeting to be the tools of the Council as they now were [*hear*].

Mr. Gloag wished to know whether the advertisement had appeared in all the papers, because he saw so few of the members in attendance.

Mr. Gabriel said it had appeared in all.

Mr. A. Cherry thought that, although there were 1400 members, the attendance was a very fair one, and quite equal to that of most public bodies. Let them only look at the report of the last meeting of the Royal Agricultural Society, and they would see that the attendance was not larger [*hear*].

Mr. Baker and *Mr. Dunsford* were then proposed as Scrutators during the balloting for the Council.

Mr. Cherry objected to the nomination of Mr. Baker, that gentleman not being eligible.

Mr. Baker said, he had himself thought for some time past, that, considering the other offices he filled, he was no longer eligible to perform the duties as a member of the Council, and he had therefore resigned that office.

Mr. A. Cherry could not see that Mr. Baker, filling the offices he did, could be objected to acting as scrutator.

Professor Spooner felt that he owed his thanks to Mr. Baker for the manner in which he had performed the duties of a member of the Council, and also those of an Examiner.

Mr. A. Cherry said his observations in moving Mr. Baker's nomination had only related to the office of scrutator, and not to that of a member of the Council.

Messrs. Baker and *Dunsford* were then elected scrutators, and the election of the required members of the Council was pro-

ceeded with. After the close of the Ballot, and the numbers polled had been cast up, the Scrutators handed in their report of the result, which

The President announced to be as follows:—

Mr. Field	29	Mr. Coley	3
“ Ernes	29	“ Spooner	3
“ Braby	27	“ Dunsford	3
“ Mayer.	25	“ Gowing	2
“ Nice	18	“ Simonds	2
“ Burley	17	“ Gloag	2
“ Withers	14	“ Martin	2
“ F. C. Cherry	13	“ Hunt	2
“ Vines	10	“ Hooper	2
“ Varnell	6	“ A. Henderson	2
“ Brown	5	“ Karkeek	1
“ Cox	4	“ Mayhew	1
“ Yeomans	4	“ Read	1
“ Baker	4	“ Huntress	1
“ Dawes	4		

The President then said, the election had fallen on the first seven named gentlemen, viz. Messrs. Field, Ernes, Braby, Mayer, Nice, Burley, and Withers. It would now, however, be for the Meeting to decide by lot which of the seven gentlemen elected should be the one to succeed Mr. Mayer, as there would be a difference in the period of his time of office to the other six members of Council. The lot having been taken, the President took one of the papers out, and, opening it, announced that Mr. Braby would supply Mr. Mayer's seat at the Council.

The President then again addressed the Meeting, which he said had now become a special one; on which occasion he had the honour of addressing them for the fifth time as their President, and he felt that they could do no less than return their most sincere thanks to her Majesty, the Queen, for having granted them a Charter, and wish that her life may be long and prosperous [*hear, hear, and cheers*]. The Council during the past year had held many meetings, but they had not been of that laborious character that they were during the preceding year; and he hoped that, although the duties had become lighter, they would continue to be prosperous. He also hoped teachers would teach the young gentlemen entrusted to their instruction with earnestness and fidelity, so that they might convince them they were instructing them with honest motives and intention, and to the utmost of their abilities. The Council were now going to revise the code of By-laws, for the purpose of improving them to the utmost of their abilities. He could not con-

clude detaining them for a few minutes to express his regret at the great loss the Council, and the College at large, had sustained by the death of Mr. Mayer, whom he might designate as the founder of the Charter; and he could truly say, that that lamented gentleman had lived and died in the service of it, for it was but a few days before he died, that he (Mr. Turner) had received a letter from him expressive of the great interest he felt regarding the welfare of the College. Their accounts, he was happy to say, were in a wholesome state, for which Mr. Field, their Treasurer, deserved their thanks. Mr. Cherry, their Registrar, also deserved their thanks for his untiring exertions; but more especially was the Editor of *THE VETERINARIAN*, who gave them information upon every matter of interest to the profession, pre-eminently entitled to their warmest thanks for his strenuous exertions in support of their cause.

Mr. Gloag (holding in his hand the Registry compiled by Mr. A. Cherry) mentioned several names, including those of Mr. Cherry, Mr. Spooner, and some other members of the body corporate, whose titles were omitted from the Register, and said he wished for an explanation of the reasons for which they had been left out.

Mr. Percivall said, if such were ground of complaint, he had as much right as anybody to complain.

Mr. Vines said they had, in his opinion, been most improperly left out, and that instead of Mr. A. Cherry being entitled to the thanks of the meeting, as the President had held out, he thought he ought to be censured [*hear, hear*].

Mr. A. Cherry observed that, instead of being called upon for an explanation, as he had been, he thought it would have been much more proper if the gentleman who had done so had first made inquiries into the reasons why those titles were omitted before calling for an explanation [*hear, hear!*], as it had now been the case for three years. The list had been begun by the late Mr. Mayer, and it had come into his (Mr. A. Cherry's) possession in a most imperfect shape after his death, and he felt he should not have done his duty to the profession at large if he had not exerted himself to the utmost to obtain a complete list. To attain that desirable object, he wrote to persons he knew in all parts of the country to furnish him with the names and addresses of all the veterinary surgeons that they were aware of, and he had received upwards of seven hundred names in consequence of having done so [*hear, hear!*]. Some of the lists were, however, most imperfect, as they did not state at what schools the persons had been educated. He had, therefore, had great difficulties to contend with, but had exerted himself to the utmost to make out the list as correct as possible.

He, therefore, considered he ought not now to be called to an account in the manner he had been for any omissions there might be [*hear, hear!*].

Mr. Vines did not think that *Mr. A. Cherry* ought, as Registrar, to have omitted any of the titles of the members from his list, but more especially that of his own father [*disapprobation*], which was inserted in the list that was circulated when the Charter was first applied for. He thought such neglect ought to be visited with a vote of censure.

Mr. Gloag could not see that any sufficient answer had been given by *Mr. A. Cherry*. He still considered that such omissions as he had specified ought not to exist.

Mr. Baker said he thought that all honour ought to be given to those gentlemen who were in office, and that their titles ought, therefore, not to have been omitted. He would move "That they be inserted in the next Report."

The President called on *Mr. Gabriel*, the Secretary, to read the Report of the Council for the past year.

FIFTH ANNUAL REPORT OF THE COUNCIL OF THE ROYAL COLLEGE OF VETERINARY SURGEONS TO THE MEMBERS OF THE PROFESSION.

THE Fifth Annual Report of the Council of the Royal College of Veterinary Surgeons will be a less severe tax on the patience of the Members of the Body Corporate than has hitherto proved to be the case; the principles on which the Council have acted have been, as usual, fully and freely investigated, but in a spirit more consistent with calm discussion and cool deliberation.

It will, doubtless, be remembered, that last year an attempt was made by the London and Edinburgh Schools to evade the scrutiny instituted by the Board of Examiners of the Royal College of Veterinary Surgeons by setting up spurious boards of their own. In London this plan appears to have been abandoned; but in Edinburgh it was carried out and acted on, several pupils having appeared before a self-constituted Board, and contented themselves with certain certificates issued therefrom. This being the case, the Council considered it their duty to ascertain (not for their own information, for they had no doubt on the matter, but for the guidance and caution of the young aspirant to veterinary honours) what, if any, influence such certificates would produce as passports to her Majesty's and the India

service: the following communication to the Commander-in-Chief, and to the Chairman of the India Board, with the reply from the Horse Guards, will give the result:—

To his Grace the Duke of Wellington.

My Lord Duke,

IN the year 1844, her Majesty was graciously pleased to accede to the prayer of the Members of the Veterinary Profession, by the grant of a Charter of Incorporation—a copy of which I have the honour to enclose herewith—calling into existence the Royal College of Veterinary Surgeons. The College thus created was empowered to examine candidates to become Members of the Corporate Body, and to grant Diplomas authorizing gentlemen to practise the Veterinary Art.

Her Most Gracious Majesty's desire, when thus recognizing a long established body, and conferring upon them the title of a profession, was the further advancement of the Veterinary Art, in order to increase those benefits which it had been found to bestow upon the cavalry regiments of Her Majesty's service.

As in duty bound, labouring in obedience with Her Majesty's desire expressly declared in the preamble to the Charter, the Council of the Royal College of Veterinary Surgeons have instituted a Board of Examiners, and taken such measures as seemed to them calculated to improve the Veterinary Art by enlarging the education and elevating the qualifications of all who should be admitted members of their body.

The additional preparation of the Students which these measures have necessitated has caused the Teachers at the different Schools to act in opposition to the Royal College of Veterinary Surgeons. These Schools have, on their own responsibility, established certain bodies which they have entitled Boards of Examiners: such Boards of Examiners, acting without and against the authority of the Charter, and in opposition to the wish of Her Most Gracious Majesty therein declared, have undertaken to issue certain papers which they term Diplomas, and which are pretended to be of all the force and value of the License and Membership of the Royal College of Veterinary Surgeons.

I therefore have presumed to make your Grace aware of this fact, lest any persons possessing such spurious Diplomas, and who have not been duly examined as to their attainments, should presume to apply to be appointed as Veterinary Surgeons in Her Majesty's service. At the same time, I humbly venture to beg your Grace's authority to the statement, that, so long as a College shall exist under a Royal Charter of Incorporation, no instrument issued by any private Association or public School will by your Grace be recognized.

I have the honour to be, &c. &c.

THOMAS TURNER,

President of the Royal College of Veterinary Surgeons

May 1st, 1848.

Horse Guards, 13th May, 1848.

Sir,

I HAVE the honor, by desire of the Commander-in-Chief, to acknowledge the receipt of your letter of the 1st instant, and to acquaint you, in reply, that his Grace is quite satisfied with the existing arrangement for the nomination of gentlemen to the situation of Veterinary Surgeon, and does not consider it expedient to alter it.

I have the honour to be,

Sir,

Your most obedient humble servant,

Thos. Turner, Esq.

FITZROY SOMERSET.

The Governors of the Royal Veterinary College, actuated, no doubt, by the desire of removing any apparent hostility between the Chartered Body and the Schools, obtained, through the influence of one of their leading members, an interview between Mr. Coulson, the Government Solicitor, and your President and Treasurer. The result of that interview was laid before a Special Meeting of the Council: it was a demand that the bye-laws of the College should in every instance before coming into operation, as is the case with the bye-laws of the Royal College of Surgeons, receive the approval of one of Her Majesty's Secretaries of State. After due deliberation, it was decided that, as the granting of this power would materially interfere with, if it did not entirely nullify, the powers of the Charter, it could not be acceded to.

It will not be forgotten that at the termination of the Session 1847-48, the bye-law requiring an apprenticeship certificate from the candidate was suspended for the session, it having appeared that several pupils had been entered at the Schools without having been made aware of such bye-law, and, consequently, not at all prepared to carry out its enactment; the consequence was, that here and in Edinburgh twenty-seven pupils, who otherwise would have been incapacitated from appearing before your Board, received their diplomas.

The termination of the present Session of 1848-49 will have found several candidates placed in the same dilemma; and as the Council, while they are anxious for the general weal of the profession, are most desirous to avoid any thing like individual injury, they have renewed the suspension of bye-law 2 section 6 for the present year.

For some time past serious doubts have been entertained by certain Members of the Council, as well as by many of the body at large, as to the legality of the power exercised by the Council

in laying down a curriculum of study for the Candidates about to appear before their Board. It is contended, on the one hand, that the Council have the power not only to ascertain the amount of information possessed by the candidate, but also to prescribe the manner and time in which that information shall have been obtained. On the other hand, it is insisted that, while the Council have the power of ascertaining in the fullest and most satisfactory manner the due qualification of the student, they have no right whatever to inquire how those qualifications have been obtained, beyond the mere fact of his having been educated at some one of the recognized schools. That the Members of your Council should entertain different views on this subject will appear the less extraordinary when you are informed that among some of the most eminent members of the legal profession equally different opinions are held. To solve this difficulty as far as possible, a Committee was appointed to reconsider the bye-laws, and to prepare such a code as would appear to meet the objections applicable to those at present existing. This has been done, and the new code, with the amendments thereon, are being suspended in the usual meeting-place of the Council, at the Freemasons' Tavern, for three months, as required by the Charter, before it can be finally considered. In the mean time steps will be taken to ascertain, on the best possible authority, on which of the two preceding views it will be desirable to act.

The Council have to lament the loss, during the last year, of one of the most zealous and respected members of the profession—Mr. Mayer. As a Member of the Council he always bore his full proportion of the duties devolving on him; and as a Member of the Board of Examiners his services were most valuable, from his having undertaken the onerous department of cattle pathology, a subject on which he was most completely *au fait*. The latter appointment has been most satisfactorily placed in the hands of Mr. Robinson, of Tamworth, and the former you have this day replaced.

Your late solicitor, Mr. Walter, having become more particularly engaged in the affairs of his locality, Kingston, and its distance preventing his being so easy of access as occasionally is desirable, has resigned his appointment; and the gentleman selected to replace him is Mr. S. Garrard, of Suffolk Street, Pall Mall, who has already evinced the interest he feels in our affairs by the valuable assistance he has afforded us in the contemplated revision of the bye-laws.

The number of members admitted during the last year is 27; and this would have been considerably greater had not several

students of the Edinburgh School unfortunately allowed themselves to be misled, and persuaded to appear before a spurious Board instituted by that establishment, in direct contravention of the provisions of the Charter of the Royal College of Veterinary Surgeons. The diploma of the College has been granted to 273 Members since the obtainment of the Charter. The Registrar's Report will give some further particulars.

To the President and Council of the Royal College of Veterinary Surgeons.

REPORT FROM THE REGISTRAR.

DURING the past year twenty-seven new Members have been admitted into the Body Corporate.

The deaths that have been made known to the Registrar amount in number to fifty-six; some of these have occurred during the year, others at earlier dates. The Registrar is aware of the deaths of other Members of the Body Corporate, but at present the information upon which they rest is such that he does not think it prudent to definitively admit them.

The Registrar would be obliged by having such deaths as may occur among the Members of the Body Corporate made known to him as speedily as possible, in order to prevent confusion by such names continuing on the Register.

The Registrar has also to report, that he has issued 250 circulars to those Members of the Body Corporate, or those who by the entry of their names in former lists are presumed to be so, that had not replied to the former application, in order that a more complete list may be issued this year at the General Annual Meeting; such list will be kept open to the latest possible period compatible with the same being printed in time for such meeting.

The Registrar would urge the Members of the Body Corporate, through the Council, not to neglect the registration of their names; because, from circumstances which have been previously adverted to, it would not be prudent to insert any name without a voucher of existence and residence.

The number of Registered Members in the last list amount to 717.

The Registrar intends—the approbation of the Council first obtained—to prepare district lists, such lists to be published in a manner as may hereafter be deemed the most beneficial.

ARTHUR CHERRY, *Registrar.*

13th April, 1849.

The number of annual subscribers to the funds of the College still remains limited, thirty-one names only appearing on the list. A little longer, however—our differences settled, an Act for privilege obtained, and the determination taken for a long pull, a

strong pull, and a pull altogether—then the exceptions, instead of being those on the list, will be those not to be found there.

Notwithstanding this, however, and the important point that the most available source of income for the ensuing year does not appear in the balance sheet, our debts are being paid, our liabilities are being lessened, and our fund is becoming, year after year, more permanent; £100 was last year applied to the further liquidation of our loan, and it is believed that more than that sum may this year be available for the same gratifying purpose.

Away, then, with all complaining: though we are poor, we are honest, paying off our old debts, and carefully eschewing any new ones. Though we have not a collegiate building, neither have we an onerous debt hanging over us incurred by erecting it—an unenviable position, that has been assumed by more than one public body during the last century. We have not exhausted our resources, nor yet even fairly called on them; and, therefore, let us trust that when we do so, the response will, from the body at large, be broad and liberal. To ensure this, let those who have the steering of our at present but badly rigged craft guide her straight a-head, the only port looked for being that in which the honour, dignity, and welfare of the profession are to be found. “England expects that every man this day will do his duty,” is still the naval axiom; but it is no longer the naval axiom only, for in every department of life the same appeal is being made; and never let it be said, when the boatswain’s whistle shall “pipe all hands,” that in ours only it has failed to be cheerily and vigorously responded to.

E. N. GABRIEL, *Secretary*.

* * In the “Finance Account,” as given over-leaf, for the sessional year 1848-9, “the balance in hand” is stated to be but £193..16s., whereas a reference to the Finance Account for 1847-8 will shew that the balance is stated there to have been £226..15s. This want of tally in the two accounts has arisen from the Secretary having placed the sum of £32..19s. to the credit side of the last year’s account (which was due by fees for examination) before the money was received and paid into the hands of the Treasurer. The account corrected, therefore, will stand as under:—

Dr.	£	s.	d.	Cr.	£	s.	d.
To amount of Balance as per published Report to 1st of May, 1848...	226	15	0	By Cash at Bankers on 1st of May, 1848...	193	16	0
				„ Amount of Examination Fees, &c. given credit for, but not received.....	32	19	0
	<hr/>				<hr/>		
	£226	15	0		£226	15	0

During the reading of the Report,

Mr. Brown rose and said, he feared he was irregular in interrupting the reading of the Report; but having been told that he should, after the Report was read, be deprived of the right of remarking on any portion of its contents to which he might consider it necessary to object, he wished now to do so.

The President, however, stopped the speaker, by saying that he had every reason to believe that the Report would occasion some discussion, when the gentleman would have an opportunity of speaking on the question afforded to him.

Mr. Gabriel having concluded the reading of the Report, which was received with cheers, mixed with cries of *Hear, hear!*

Mr. R. L. Hunt, of Birmingham, said he had felt much pleasure at hearing the Report read, and finding the healthy state of the accounts, which he hoped would be found to be always the case. He therefore begged to move, That the Report be received and adopted by the meeting [*Hear, hear!*].

Mr. Cherry said he had great fault to find with the accuracy of the financial accounts, as he found there was a great difference between the balance in hand inserted in the Report of 1848 and the balance in hand of that year brought forward in the present accounts.

Mr. Brown considered it was a right possessed by the members of all public bodies to object to any portion of a Report emanating from the Council of that body, and he should, therefore, exercise his right to do so on the present occasion [*Hear, hear!*]. He had nothing to do with the powers given the Council over the Schools, as he supposed they were founded on the laws given by the Charter of the College. He however objected, in the first place, to the much-vaunted apprenticeship clause of the by-laws having been suspended by the Council in the first year of its existence, in consequence of a memorial from the Schools [cries of *Hear, hear!* and cheers]. He knew of no power which gave the Council the right to suspend the by-laws whenever they pleased, and he asked how they had obtained that right?

The President said the power was given them to do so by the Charter.

Mr. Brown would ask the meeting whether they were, as a body possessing laws to govern their proceedings, to quietly submit to have those laws suspended by the Council whenever they choosed [*hear, hear!* and cries of "*No, no!*"]. It seemed to him that the time had now come that the system of making and breaking of by-laws was for ever done away with [*hear, hear!* and cheers]. The speaker then at some length expressed his opinion that the Charter that the College had obtained, instead of conferring privileges upon

its members, was a disgrace to them as a profession; and concluded, after making some condemnatory remarks on the operation of the by-law of shoeing, and the issuing of certificates under its provisions.

Mr. Cherry complained that he had not received an explanation relative to the accounts. He thought the Meeting ought to know why the balance appeared so contradictory.

Mr. Field (the Treasurer) expressed his regret that any gentleman should come to that Meeting and impugn the accounts, when he, by the position he filled, had the opportunity of inquiring and examining into the matter before the accounts were printed.

Mr. Cherry said, as *Mr. Field*, the treasurer, had not in his answer stated the reason of what he wanted to know, he would again say that the balance in hand at the end of the year 1st May 1848 was stated then to be £226, while in the present Report it was put as £193..16s..0d. He wished still to know why it was so.

Mr. Gabriel (the Secretary) said the difference was occasioned by the fees for thirty diplomas not having yet been paid.

Mr. Gowing said he had been applied to for a certificate under the shoeing by-law, and had refused to give it.

Professor Spooner, at considerable length, commented on the different points of the Report, more particularly the statements that an attempt had been made by the London and Edinburgh schools to "evade the scrutiny instituted by the Board of Examiners of the Royal College, by setting up spurious Boards of their own," of which assertion he denied the truth. He condemned the letter which had been written to the Duke of Wellington, and contended that the answer of Lord Fitzroy Somerset clearly shewed that, in the opinion of the Commander-in-Chief, the diplomas termed in the Report "spurious" were not so considered. He would ask the whole of the members present at the Meeting whether the system of education adopted by the Royal College of Veterinary Surgeons had ever been enlarged. He denied that it had ever been enlarged [*hear, hear!*]. He also denied that they had any right to suspend the by-laws, and he contended that the suspensions that had been made were illegal. Sir Fitzroy Kelly, Mr. Peacock, and Mr. D. Hill, had been consulted in the matter, and they were all of opinion that the Council had arrogated to themselves powers that they did not possess [*loud cries of "Hear, hear!"*]. The remainder of the Report was, he declared, replete with inaccuracies; and he concluded by saying that the Council were only endeavouring to increase their fees.

Mr. Baker, in seconding the adoption of the Report, expressed the regret he felt at seeing a gentleman filling the high position

which Professor Spooner did, adopt the course he had in his speech. Had the Council altered the curriculum of study, or had they reduced the time fixed as the period of study, there might have been some justification for the charges he had made.

Mr. Brown said he had himself been applied to by a young man to give him a certificate for shoeing, when he shewed him the by-law on the matter. He was, however, told by the young man that the certificate would be received by the Council, and he then saw him prepare a horse's foot for shoeing, and examine it for disease before putting on the shoe: he then gave him a certificate of what he had seen done; and, as he had got a diploma, he supposed that it passed.

Mr. A. Cherry having defended the Council from the aspersions cast upon them by Professor C. Spooner,

Mr. Vines made a violent speech, in the course of which he accused Mr. A. Cherry of abusing his own father, and was called to order by the President.

After some rather angry observations between Professor C. Spooner and Mr. A. Cherry,

Mr. Gloag wished to know where the place was that the by-laws of the College were hung up at? In his opinion, every member ought to be acquainted with where that place was, in order that they might make themselves acquainted with them, so as to be enabled to express an opinion upon them.

Mr. A. Cherry explained that, the College not being in the possession of a room in which they could be always hung up, they were always laid on the table of the Council and at all meetings of the College.

Professor Spooner explained to Mr. Gloag, that, by the Charter, the Council were empowered to make by-laws; and that any member of the Council had the power of proposing an alteration in any of the by-laws, a copy of which was stuck up for three months' consideration before it was agreed to.

Mr. Gabriel said that, when the last by-law was proposed to be suspended, he had himself the next day brought a copy to that tavern, and, in the usual manner, stuck it up in the room usually used by the College, when Mr. Bacon had pledged his word that it should remain for three months suspended, and that every person who applied should be permitted to see it.

Mr. Vines then attempted to again address the meeting, and refused to desist when called to order by the President, who was going to put the motion.

The President said he had a duty to perform, and could endure Mr. Vines' interruption no longer. He was of a peculiar temperament; and he felt that, if Mr. Vines did not desist while he

performed that duty, he should turn Mr. Vines out of the room [*hear, hear!* and loud cheers].

Professor Spooner.—I have an amendment to propose.

The President, notwithstanding, put the motion that the Report be received and adopted, which was carried; the numbers being 17 for and 6 against it.

Mr. Pritchard, in proposing a vote of thanks to the President for his excellent conduct in the chair, expressed his surprise that, knowing Professor C. Spooner and Mr. Principal Cherry to be both men of education and high character, they could so demean themselves by the opposition which they annually made, when they talked rubbish that ought not to have been listened to. He had come 130 miles to attend the Meeting, but, if such conduct was to be continued, he, for one, would not come that distance again. He thought it was disgraceful [*loud cheers*].

The vote having been seconded, was carried, and, the President having returned thanks, the Meeting broke up about five o'clock.

MR. MAYHEW IN REPLY TO MR. MAVOR.

To the Editor of "The Veterinarian."

Sir,—MR. William Mavor jun., in your Journal of last month, laid before the public a letter intended to be a reply to my paper, which appeared in the previous number of THE VETERINARIAN. No one could possibly be more willing to listen to explanation, or, on being convinced of error, more anxious to make atonement, than myself. I have no desire to injure any man; and when I publicly make a statement of broad facts, I do so in order that the opportunity of refuting them may be afforded. In your candour, I knew Mr. Mavor was certain of obtaining every facility he could wish for; and he shews a want of judgment when he avails himself of the opportunity, but, while doing so, betrays a loss of temper. A scientific question might be debated on its merits without personal allusions or unfounded aspersions. Yet Mr. Mavor says many things of myself which I can afford very well to let pass in silence, while on his own part he advances too much and too little to constitute a satisfactory answer.

He seems to complain that his opinion is questioned, and appears to state as a reproach, that my information was derived from a very questionable source. I wish gentlemen, when desiring to be severe, possessed the moral courage to employ words of definite

meaning. I am not yet so deep in wickedness but I can bear to hear my failings honestly characterized, and I am not yet so steeped in politeness that my admiration yearns towards the mincing gentility that, under a pretence of refinement deals with insinuation. My informants were men, and all human testimony, of course, is subject to inquiry. Unless there be an authority which is infallible, there can be no evidence that is not questionable, and no person has a right to feel hurt if his statements or opinions should be questioned. I therefore did Mr. Mavor no wrong when I did not regard him as superhuman, and he fixes no stigma upon my informants by a term which, when properly considered, implies only that they were mortal.

Mr. Mavor begins by narrating what he said to Mr. Buckle, with whom he rightly states I had no communication upon the subject. As my words, therefore, did not directly allude to the gentleman named, and as my information was, to Mr. Mavor's knowledge, derived from another source, it becomes somewhat difficult to comprehend in what way anything Mr. Buckle may have been told is a conclusive answer to something which another person may have heard. People give utterance to very different opinions at different times, and the corroborated assertion concerning that which one party may not have heard can be no evidence with regard to what another person may be able truthfully to certify; therefore, granting Mr. Mavor's account, and having no disposition to contradict it, nevertheless it goes for nothing, since it does not bear upon the point.

Alluding to what he is pleased to term my mis-statements, Mr. Mavor asserts, that when the horse was submitted for his examination, he "*unhesitatingly, after due observation, affirmed that the tumour was melanotic in its character.*" The declaration is positive, and I at once admit it. I regret that I should have been misinformed. The person who told me what I made publicly known was not personally prejudiced against Mr. Mavor: on the contrary, he seemed to entertain a very great respect for that gentleman's judgment. There was no evidence of motive likely to make me suspect Mr. Mavor would be misreported by one so very well disposed towards him. I did not think a person influenced by friendly feeling would, after having heard what he was interested to remember, give a false report. Mr. Mavor does not directly say, he never allowed any individual, by what he at any time might have said, to conjecture his opinion was never such as he in his reply asserts it ultimately became; but I am willing to give the most generous interpretation to his language, and however impossible it may be to account for so strange a mistake, nevertheless,

after Mr. Mavor's denial, I cannot contend my informant was not mistaken.

Granting so much, still it had perhaps been better if Mr. Mavor had been pleased to make known the signs by means of which he was morally justified in pronouncing so decided and so unqualified an opinion. The case, as I described it—and it was my endeavour not to overcharge the history—seems a little obscure. There was what most practitioners might esteem reason for guarding the judgment; and I am therefore naturally desirous to know what nice knowledge enabled Mr. Mavor to speak so decidedly, and without the shadow of a reservation. It would be ungenerous to suspect he made a guess, and took the chance of being right or wrong as the event might turn up for or against him. We know some people do act thus, and often by their luck establish the reputation knowledge was wanting to obtain; but in Mr. Mavor's position, far be it from me to insinuate he boldly staked his name upon a chance. I am certain he must have been guided to his conclusion by deep principles; but as the indications of early melanosis are not by our profession yet well comprehended, and many even assert that in the early stage the disease is not to be confidently recognised, it is a subject for regret that a gentleman so peculiarly qualified to instruct his brethren did not condescend to give an outline of the delicate symptoms he was able to read so plainly. I lament Mr. Mavor's silence the more, because there are some people who will believe nothing without proof, and with such persons assertions, however bold, rather startle than convince.

About the possibility of removing the tumour by operation, Mr. Mavor says, "*I did not consider that its removal was impracticable, but that in the event of an operation being performed, serious consequences would in all probability ensue, and endanger the life of the animal; and therefore the more politic course would be to leave it entirely to itself.*" In other words, Mr. Mavor viewed the operation as possible, but highly dangerous. Here, again, the gentleman does not declare he never to any person at any time or in any place pronounced removal by the knife an impossibility; but his words imply so much, and I am willing to read them in their fullest signification.

I feel for the unfortunate individual who, being my informant, spoke what he believed he heard, and nevertheless was so entirely mistaken that nothing he has related turns out to be correct. It is really a pity an individual so well inclined, and without a particle of desire to do Mr. Mavor an injustice, should have been so much deceived as in no respect to be faithful in his narrative. I am sure the party will greatly regret the treachery of his senses. But not

to dwell too forcibly on a painful subject, let me now consider what Mr. Mavor actually did pronounce.

He said that, in the event of an operation being performed, *serious consequences would in all probability ensue, and endanger the life of the animal*. The existence of the horse was not to be simply perilled, but in *all*, that is, in every probability, the life was to be endangered by an operation. I understand this; but taking it in connexion with the previous portion of the sentence, I am unable clearly to comprehend it. At first Mr. Mavor decidedly states the operation is not impracticable, and afterwards he declares the operation, if performed, will in *all* probability kill the animal subjected to it. My notions of practicable operations are not associated with ideas of slaughter, and therefore my state of mind does not allow me to regard that operation as practicable which in all probability must destroy the life. When the chances of success are against the surgeon, the knife is never justifiably employed. An operation is, in my opinion, only practicable when the hope of benefitting the patient very far exceeds the chance or probability of shortening its existence. Mr. Mavor, however, has evidently some novel opinions upon surgery; but as I do not know what they are, I cannot pretend to offer a conjecture upon their value, and as they are fundamentally opposed to my own convictions, perhaps I am not fitted to sit as judge upon their merits.

The gentleman declares, however, the life would have been endangered if the tumour had been removed; but, with his former contempt for mean particulars, he does not say why or wherefore such a consequence should be the natural result. In anatomy I will not pretend to be Mr. Mavor's equal; in physiology and pathology I acknowledge he is my superior: for having provoked him into a dispute, I concede to him all and every advantage. Up to my point of knowledge, however, I cannot, for the life of me, make out what it was that rendered the operation in question either complicated or hazardous to even an ordinary degree. Are there vessels and structures about the abdominal region which have hitherto been overlooked, and are known only to certain studious and highly-gifted gentlemen? My conclusion, as to the possibility of an operation was formed upon the known facts which anatomy, &c., has laid bare; and I lament exceedingly Mr. Mavor did not condescend to teach us how little real practicable information such facts have imparted. No doubt, his judgment is of great weight; but I am selfish enough to wish he had given some few reasons in support of it; for he stands, not opposed to me alone, but to the entire world of science. All the so-called authorities, native and foreign, ancient and modern, are arranged against him; and, seeing how much he has to contend with, I naturally wish he should have,

at all events, made good his ground, even if he did not care to labour for the victory. In the position I hold, perhaps, he was not bound to be explicit with me; but when the accumulated wisdom of ages and of countries is concerned, even his opinions, although they are not to be questioned, ought to be respectfully stated, if they are expected to be received.

The penetrative faculty which discerned the character of the tumour while it was hidden from view enabled Mr. Mavor to perceive perils ordinary minds failed even to conjecture. I admire genius in all its forms, and regret through my agency it should have been wronged; but deeply has it, by my officiousness, been misrepresented. Mr. Mavor states clearly, he advised to leave the tumour *entirely to itself*; by which, of course, he means, he recommended it should in no way be disturbed or meddled with. The words, in any sense they can be made to bear, are unusually decisive. He who thinks he comprehends their meaning can give to them but a single signification; and how very strange must have been the mental condition of the person on whose information I made my report. I do not defend that individual. After Mr. Mavor's plain denial I have no option but to view the affair as settled, and to regard it as a matter proved, that he did advise all applications should be entirely withheld. Let me, however, pity the party who so far deceived himself as to believe he heard that which was never spoken. My pity is merited, because the case is extraordinary. That a non-professional person should think of *iodine*, which is not a drug in common use;—that he should imagine it was employed in ointment;—that he should suppose its action could be benefited by friction;—and that he should conjecture it would be of service in abnormal enlargements, is altogether so very strange, that he who was mentally disposed to such marvellous self-deception is certainly worthy of commiseration. An instance of the like kind I do not believe to have been recorded, and it deserves to be classed among the wonders of physiology.

It is true, Mr. Mavor does not allude to iodine; but he states he recommended the tumour should be left entirely to itself; and as this could not be done if a powerful irritant was to be employed, of course his words contradict the advice I was told he gave. It would be beneath me to imagine he was capable of the meanness of reservation; and if he could be supposed guilty of so low an artifice, all he has hitherto advanced would be discredited. Moreover, he gives emphasis to this part of his declaration by remarking, any person of *practical experience*, having seen the case, would entertain a similar opinion. Upon that point, therefore, there can be no mistake; and I sincerely feel for my poor informant, who, without a motive or a hope of gain, so oddly imposed upon his own belief.

Mr. Mavor scores under the words "practical experience" as though the phrase were particularly grand. In my idea it is the reverse; for until observation has been compared, and by intelligence reduced to method, mere physical facts are of little value. There does not live the being whose life does not necessitate practical experience. The idiot differs from the sage in practical experience, since wisdom for the most part seeks retirement, and imbecility is fond of crowded action. Things of lowest instincts—insects—are practical; and savages remain removed from civilization because they cannot comprehend any thing beyond their bare experiences. Practical experience is very well as afforded data for principles to be deduced from; but if not guided and instructed by the loftier qualities of mind, it debases the man who dares trust solely to its teaching. The world's experience is very large, yet its stock of knowledge is but small; and in medicine there is a term which should make all connected with it careful how they boast of mere practical experience. I am sure Mr. Mavor is no empiric. Did I presume to call him by such a name he would resent it, and I should respect the anger which the word provoked. Nevertheless, the empiric is really one who trusts solely to practical experience, and he who rests his claim to public respect on any such foundation must be content to assume the title.

I have let this communication run to greater length than I intended. The subject has led me on; but before I conclude I must add one more comment on the postscript to Mr. Mavor's letter. That structures in which melanosis is partially developed may burst and heal, I freely admit; but that a tumour purely of that character has in it any power of reparation I have yet to learn. In the horse, the system being predisposed, any enlargement is likely to be tainted; but a mere partial discolourization would not constitute the structure purely melanotic, and therefore I must suppose the tumours Mr. Mavor speaks of were of a mixed or compound nature. Our information, however, on this subject is much more limited than it ought to be considering the frequency of the disease in the animals we treat. My opinions, possibly, may be untenable, for I live to learn, and I feel grateful to those who care to disabuse my ignorance. A paper on melanosis from Mr. Mavor would in *THE VETERINARIAN* to me be interesting; and as I know he has the ability to write one, it would confer an obligation on the members of his profession if he would undertake to string together the facts which have fallen under his notice, and express the opinions which they have induced him to form.

I remain, Sir,

Your obedient servant,

EDW. MAYHEW.

16, Spring-street, Westbourne-terrace.

VOL. XXII.

3 A

REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—Hon.

THE HORSE'S MOUTH: SHEWING THE AGE BY THE TEETH. *By* EDWARD MAYHEW, *M.R.C.V.S.* *Embellished with numerous coloured Engravings, from Drawings made expressly for the Work, taken from authenticated Mouths:* 8vo, pp. 194. Fores, London, 1849.

IN setting about the examination of a work on a subject attractive from the known interest all persons concerned take in it, written by a man either already standing in a high position as an author or in acknowledged eminence as a member of his profession, the reviewer has a right to anticipate a pleasure which, if not peculiar to his own feelings, is, at least, shared only by such *col-laborateurs* as are engaged in similar flowery fields of critical inquiry. Such a work is the book now before us. To every man whose propensities incline horse-ward, and whose exchequer enables him to keep his hunters or his racers, his hackneys or his harness tits, the ages of his four-footed favourites will ever be a grand consideration with him, since by it he will be enabled, *cæteris paribus*, not only to estimate their respective capabilities for work, but likewise, at the end of the season, should he contemplate sending them to "the corner," to make some sort of computation what returns they are likely to render to his pocket. In no class of horses is age of such consideration as with race-horses. A year in a racer's age, at an early period of his life, is of grave import in calculating his powers of running. Condition is the only consideration that can weigh in the balance against it; and when there exists as much condition on the one side as on the other, the year in age—nay, the quarter of the year—is sure to tell in the race. The frauds, through the mis-representation of age at entry for stakes, which a few years ago were so unblushingly perpetrated on the turf—and which, it is now believed, had been practised for years before—have opened the eyes of the racing public, and in particular of the Jockey Club, to the necessity of having recourse to that science which teaches age by "the horse's mouth,"

in confirmation or in refutation of such certificates as accompany the candidate for the race to the starting-post; to carry out which the Club have recently issued "rules" enforcing *dental* as well as verbal or written testimony of the ages of horses admitted to run.

Thus much for the subject of the work. We will now essay a brief sketch of the history and pretensions of its talented author, and, after exhibiting specimens of his performance, will conclude this article with our opinions of the work itself. Mr. Mayhew commenced the study of a new (the veterinary) profession at a period of life when many men retire from active business. With a mind not in a condition to receive instruction through the ordinary channels, he found himself compelled to be his own teacher, being able to learn only through observation. This led him into inquiries whose results often placed him in opposition with established opinions. Nature's own pupil, nature alone could he describe. He could set down nothing but what was the result of practice or the consequence of legitimate induction. He could not bear with the "traditional teaching" of the schools; nor could he put up with the "no spirit of inquiry or thought of extending the boundaries of knowledge" which therein in his time existed. "On the teeth," therefore, says Mr. Mayhew, "my investigations began from the beginning; and though I cannot but say I have been greatly assisted by the information derived from the labours of previous writers, yet I have, in every instance, accepted their assertions only after I had tested them and found them to be correct."—*Preface*, p. xii.

A subject such as "age" yields no fruits in the hands of a man who sits and indites in his closet; contenting himself with the gleanings of libraries, and reposing upon the authorities of authors, while the wide and varied field of inquiry lies as open to him as to others. No! if he desire to reap, he must till the soil and sow the seed. To make himself acquainted with the "age of the horse," he must turn up his cuffs and his wristbands, and by coaxing and adroitness prevail upon the animal to permit him to inspect its teeth; nor must his examination be protracted, lest the subject under inquiry lose all patience and forbearance, and so defeat his object. After such a manner alone can a knowledge of the living character and phases of the dental organs be obtained. And if

with perseverance in practical investigations of this kind, the inquirer happens to combine the possession in his own person of a pen ready at description and a pencil as ready at representation, what shall we say to his pretensions as a writer and illustrator of a 'Treatise on "The Horse's Mouth, shewing the Age by the Teeth"'? Such a practical, persevering, specially-talented person is the author of the present work—Mr. Edward Mayhew. And that our reader may not be desired or forced to accept this as a compliment from us to one whom we are proud to number among our professional friends, Mr. Mayhew shall now speak, through our pages, for himself, and will, in a more satisfactory manner than we have been able to speak for him, shew how capable he is of answering for himself.

In the opening paragraph, concerning the indications of age afforded by the teeth, and the reliance reasonably to be placed upon them, Mr. Mayhew instructs us :—

"1. *That the teeth of the horse denoted the age of the animal* appears to have been a very ancient belief, which the experience of centuries seems in no degree to have weakened. As a general rule, applied within certain limitations, the impression is certainly well founded; for perhaps no development is more regular than the teeth of the horse, and no natural process so little exposed to the distortions of artifice. We are, nevertheless, not to expect that the animal carries about in its mouth a certificate of birth, written in characters so deep or legible that they cannot be obliterated or misinterpreted. The indications to be discovered by an inspection of the mouth of the horse, however, are so generally true, that in these dependence may be placed; although they are not so arbitrary or invariable that upon them in every instance an absolute opinion can hastily be pronounced. He who would judge of the age by the teeth must therefore be content to study and prepared to encounter difficulties. In proportion as he has done the one, and is fortified thereby to overcome the other, will be his success. There is no secret charm which will enable man to unravel Nature's mysteries. Her ways are regular, but they are not uniform—her laws are fixed, but her acts cannot be measured by a system of rule or compass. The qualified judge alone will read the teeth correctly; but in proportion as the task is difficult, will be the candour and caution of him who fulfils it properly. He will make allowance where certain marks are indistinct or absent—he will not feel himself degraded by a confession of inability to speak with certainty when the signs are complex or confused—and, above

all, he will be cautious before he pronounces a final opinion, and gives it forth as a decision, against which there ought to be no appeal. The veterinary practitioner knows from repeated trials, tested by long experience, that the teeth of the horse are worthy of attention; he feels that their indications, scientifically interpreted, will seldom mislead; but he does not regard them with a reverence resembling that originating from an antiquated superstition, or look upon them as the exemplifications of a principle which admits of no exceptions."

This qualified reliance upon the indications of age by the teeth, Mr. Mayhew follows up with the wholesome reminder, that

"In every case the evidence of the teeth is secondary to direct and substantiated testimony."

An important element to be taken into the account in computing or pronouncing the ages of horses, arises out of the circumstance of arbitrary birth-days having been affixed by the Jockey Club for racers, and by established custom for all other descriptions of horses, these birth-days differing so much as four months in their periods of date; and although it cannot be denied that some weighty advantages are gained by this nominated period of birth, yet does it frequently tend much to perplex even the veterinarian in his judgment, and the more so when combined with it there happens to be any great irregularity in the usual time of foaling. All this Mr. Mayhew has clearly explained, concluding his remarks bearing on this division of his subject with some "suggestions" for the sure determination of the age of the race-horse, in whom it becomes a matter of such telling concern, which we strongly recommend all gentlemen on the turf to diligently peruse; while his observations on the ages of other horses, in whom the teeth prove a sufficient voucher for the security of the purchaser, are fraught with that sensible and shrewd remark which could proceed from no other than a mind that had made itself thoroughly acquainted with the usages of the horse world, and the deceptions said to be so specially practised in it, but which Mr. Mayhew regards as by no means of that exceptional character which they are so generally thought or represented to be.

Passing over "the description of the teeth," so far as their "situation," "organization," and "number" are concerned, let us

dwell for a few moments on that interesting part of the subject, their "composition."

"Three substances enter into the composition of the horse's tooth:—1. *crusta petrosa* or hard crust, *enamel*, and *ivory*."

"THE CRUSTA PETROSA is the most externally situated, and when the tooth first appears in the mouth, it is entirely coated by this substance, having a somewhat dull and dark appearance, which is only lost when the hard crust is removed by attrition, and the enamel thereby exposed. In amount, the *crusta petrosa* is second to the ivory, being more in quantity than the enamel. In composition, it is characterized by containing a great amount of animal substance; and, in structure, it is peculiar for exhibiting, under the microscope, numerous corpuscles or cells, from which pores or minute tubes appear to radiate. Within the alveolar cavity, the *crusta petrosa*, which around the fang becomes of considerable thickness, is of a yellowish white colour; but where, in connexion with the crown of the tooth, it is exposed to the chemical action of the food and air, it presents a darker aspect and looks like an accumulation of tartar, for which indeed it has been mistaken. It fills up the infundibula of the molars of the upper jaw, and lines those of the incisors, being pierced by all the vessels which nourish the teeth. If a tooth be subjected to the action of dilute hydrochloric acid, the enamel will be removed, and the ivory and *crusta petrosa* be rendered separate and distinct."

Both English and French veterinary writers have mistaken the *crusta petrosa* for tartar, not being aware of its existence *inside* as well as outside the tooth. The earliest intimation we had of its existence arose from the perusal, some years ago, of a little work by Rennie, intituled "The Alphabet of Zoology" in which we found it stated—"In those quadrupeds which grind their food, such as the ox and the sheep, the tooth is composed of three peculiar textures, bone, enamel, and cement (*crusta petrosa* vel *cortex osseus*), as may be seen on cutting an elephant's tooth, or that of a horse or ox, in the direction of the jaw, and polishing the surfaces."

On the subject of what is understood the "after-growth" of the teeth—a property which was assigned them, *ab origine*, by the German veterinary Professor, Pessina, Mr. Mayhew expresses doubt:—

"I admit the teeth of the horse do grow, and only doubt if the

process has been properly described. When the crown of the tooth first appears in the mouth, the fang is not completed, and the root has not even been developed. The horse is seven years old before all the roots are perfected, and when these are completed, I doubt if the after-growth is material. If the jaw of an old horse be examined, the alveolar cavities will be found to be shallow, shewing that the loss, consequent upon the wear, was compensated by the tooth being projected into the mouth, and not by any increase of substance. Again, those animals the incisors of which retain the marks in extreme old age, may shew long teeth, but not of that excessive length which growth would suppose; only such as the want of wear would occasion, supposing the increase to cease when the root was perfected. The fang, in fact, is so much tooth in reserve, and as such answers the purpose for which growth was supposed to be necessitated. I have by me specimens of old teeth, but the measurement of none of them contradicts the opinion I have advanced, there being but a material increase of the *crusta petrosa*, which at the root blends with the ivory, and cannot be clearly separated from it. The thickening of the *crusta petrosa* around the root and neck, probably, never ceases during the health of the animal; but to this substance alone is confined the imaginary growth of the horse's teeth. When the roots are perfected, the length of the tooth is completed, and the only after process consists in a gradual deposition of earthy matter within the body of the member, the bulk of which is defined. In old teeth, the ivory becomes very dense; and he who attempts to cut through an old and young tooth will be made aware of a contrast. The pulp in the teeth, after the formation of the root, gradually diminishes and ultimately disappears, in consequence of the ossific deposition. In fact, when growth ceases, consolidation has taken place, and rendered its continuance no longer necessary."

With a book of such interest before us we have been turning over leaf after leaf until we find we have extended this article as far as our space allotted to "review" will admit; and, we might add, as far as is consistent with the lengthy extracts we have already made from the work. We have not touched upon—nor can we afford room to say any thing about—the important topics of "the recognitions of the milk teeth;" "the distinctions" between them and their successors; "the various points which denote growth;" "the indications of age;" "the mode in which the horse cuts his teeth," and the periods at which they are cut; the alterations the permanent teeth undergo; the tricks practised upon the temporary

teeth to hasten the growth of the permanent, and upon the permanent teeth to give the animal a youthful aspect; the irregularities of growth; the diseases of the teeth; or the instruments used in connexion with the teeth.

There remains still one striking feature which we dare not pass over, and that is, "the coloured engravings." To call these mere illustrations would insufficiently express their character; they are therefore, and with great truth, denominated "embellishments." They are of their kind the most beautiful approaches to Nature that have ever met our eye.

In conclusion, we may and do say, that our "anticipations" at the beginning have in the end been fully realized. The work, for the purpose it is designed, is all the veterinarian can desire it, all that the horse-man can need it: the one it will teach things not to be found "in his philosophy;" the other, it will plainly and perfectly instruct in the useful art of interpreting "THE HORSE'S MOUTH," so as to learn "THE AGE BY THE TEETH."

THE VETERINARIAN, JUNE 1, 1849.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

WITH mingled feelings of pain and disgust we advert to the proceedings of the General Meeting. To write any account of them is but to record one more of those discreditable—we might, with Mr. Pritchard, say "disgraceful"—scenes which in former years have been enacted at the assembly of the members of the veterinary profession. We never, however, saw the professional atmosphere convulsed by more hostile and rancorous feelings than shot through it on the late ominous occasion. Party full of hot and vengeful blood was arrayed against party. The Annual Report was declared to be in every line a falsehood. The Council denounced as serving nothing but their own ends. The Board of

examination impugned as a tribunal of mockery and humbug, and those who supported it as worthless for their pains. Every thing, in short, pertaining to the Charter was good for nothing. We have forbidden our reporter publishing any notes of the obnoxious epithets which were so liberally bandied about; neither will we trust our own pen to repeat them: fitting as they might be for the general meeting, they are not fit for our pages. Another time, if any kind of order and gentlemanly conduct is to be preserved, and the members who put themselves to the inconvenience and expense, and, we may add, pain, of going to such a meeting, are to be allowed to take their part, unmolested and uninsulted, in the discussion, the President must exercise the authority the law and custom of debate arms him with, and peremptorily insist that no member shall attack another with personalities, or be permitted to speak a second time on the same question, unless by way of explanation, and then only by express permission. To the repeated infringement of these universally observed rules in fair and gentlemanly discussion it was that so many unbecoming epithets were exchanged, and the same parties ever upon their legs clamouring the meeting but nowise informing it: indeed, to the obstreperous and malignant course the proceedings took may we reasonably ascribe the silence of those who came miles out of the country to listen to a calm and honest exposition of the differences now unhappily severing the veterinary profession into parties whose real and manifest interests it is to unite in one unanimous body under the auspices of the Royal Charter.

But it was the Charter that was said to be to blame for all—the Charter which was so vehemently and universally desired, so industriously and perseveringly sought after, so extremely dearly paid for: it was the Charter, we repeat, that was blamed for every thing. Never, hardly, since the unfortunate day on which the Charter was obtained has the “infant” profession rested quietly in its corporate cradle; never seems it, from present prospects, likely to do so again. This genius of Charter has brought in its train every spirit of discord; raised up every demon ready to damn the profession; and, withal, has robbed us of some seven hundred pounds. What has the Charter to answer for!—what, indeed!

With what eyes the ministers of government look upon this distracted state of veterinary affairs; with what the directors and

governors of the Veterinary Schools regard it; with what the noblemen and gentlemen of the turf, or horse-folks in general, view it; or, whether such authorities and personages think or care one button about us or our concerns, we know not. This we, however, do know and feel—that unless some high and dominant power take our affairs in hand, the present disorganized state of them cannot fail, in the course of time, to affect veterinary science. So long as its professors are at loggerheads we cannot expect much solicitude will be evinced for the science; on the contrary, indeed, under such a querulous and divided *regime* the science is more likely to regress than to progress, and in the course of time to ebb into its old channels of farriery and groomery. If the veterinary art has proved itself to be of signal service as an aid and polish to our cavalry, let government authorities no longer shrink from taking the matter in hand, and *insist* that the Queen's Charter shall be carried out to the letter;—let no person be able to obtain a commission as veterinary surgeon who has not passed the legitimate Board of Examiners, as appointed through the Charter; and then we shall see who will contravene the chartered edict, or dare to raise a colour against the royal standard. This will put an end to all intestine professional quarrels; and is, indeed, the only effectual way in which an end can be put to them. And until this be done, the Royal Charter is but a word without a deed. That which is given by the crown must and will be upheld by the crown. And if it is not to receive royal support, then, indeed, may we cast veterinary physic to the dogs, and its professors into the slough of despondency.

PROCEEDINGS OF THE COUNCIL OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.

(SPECIAL MEETING.)

Sitting of May 22, 1849.

Present,—Mr. THOMAS TURNER, the SECRETARY, the TREASURER, Messrs. ROBINSON, NICE, BRABY, ERNES, BURLEY, JAMES TURNER, ARTHUR CHERRY, GODWIN, PERCIVALL, and MAYHEW.

A SPECIAL MEETING, convened pursuant to the requirements of the Charter, to elect a President and other officers,

The minutes being read and confirmed, it was moved by the *Secretary*, and seconded by Mr. *Burley*, “That Mr. Robinson do

take the chair during the period of balloting for the President." Carried.

Mr. Field, after some remarks on the able manner in which the Chair of President had been filled, proposed Mr. Thos. Turner as President for the ensuing year.

Mr. Percivall warmly seconded the nomination.

A ballot ensued, and Mr. Turner was unanimously elected.

Mr. Turner returned thanks for the honour the Council had again done him in electing him to the office of President, and stated his determination to do his uttermost for the maintenance of order and the advancement of the body corporate.

Mr. Gabriel briefly proposed Mr. Langworthy, of London, and Mr. Read, of Crediton, Devonshire, for the office of Vice-Presidents.

Mr. Arthur Cherry stated, that he should propose the names of four gentlemen to fill the office of Vice-Presidents, and thus complete the required number; that the gentlemen so nominated were personally unknown to him, but that he believed they were every way fitted by their position and attainments for the office; that in the selection he had made he had endeavoured to represent as many different counties as possible, feeling convinced that such a course was the most desirable. He then named Mr. Churchyard, Woodbridge, Suffolk; Mr. Joseph Lucas, Lutterworth, Leicester; Mr. T. W. Stanley, Leamington, Warwick; and Mr. W. A. Cartwright, Whitchurch, Salop.

The six nominations, being seconded, were then balloted for, and duly elected: three other names were also proposed.

Mr. Godwin proposed that Mr. Gabriel should be elected Secretary.

Mr. Percivall seconded the nomination.

The ballot shewed the election to be unanimous.

Mr. Gabriel proposed that Mr. Arthur Cherry should be re-appointed Registrar.

Mr. Nice seconded the nomination.

A ballot shewed no opposition.

Mr. Arthur Cherry stated, that the course he had adopted in this matter had been one of reflection, founded on custom and law; that he should still follow the same course, simply because it was a correct one, regardless of any personal attack that might be made on him, knowing full well that what was right must always in the end be properly appreciated.

Mr. Ernes gave notice of motion, "That the proposed code of by-laws be re-committed."

The Secretary read a letter from Dr. Mercer, tendering his resignation as a member of the section of the Court of Examiners acting for Scotland, in consequence of his having left Edinburgh and settled at York as a physician.

Adjourned.

GENTLEMEN WHO HAVE RECEIVED THEIR DIPLOMAS FROM THE
ROYAL COLLEGE OF VETERINARY SURGEONS.

SCOTLAND.

APRIL 25TH, 1849.

Thomas Cade, Crediton, Devonshire
William Lockhart, Glasgow
Edward Evanson Ashe, Cork
Charles Edward Barton, Coventry,
Warwickshire
John Finlayson McGill, Ayrshire
William Aitken, Edinburgh

Thomas Secker, Knaresborough,
Yorkshire
Charles Barker
William Stephenson Thornton,
Yorkshire
Alexander Robinson, Greenock.

LONDON.

MAY 4TH.

John Roalfe Cox, London
Whitfield Smith, Liverpool
William East, Bishopstone, near
Aylesbury
William Clark, London
Richard Stone Blake, Castle Carey,
Somerset
Edward Garton, Loughborough,
Leicestershire
Stephen Evershed
Richard Barker, Middlewich,
Cheshire
Thomas John Williamson, London.

MAY 11TH.

Alfred John Shorten, Ipswich, Suffolk
John Gates, Prescot, Lancashire
Edward Simpson Shove, Sudbury,
Suffolk
Thomas Johns, St. Pancras, Middlesex
Mathew Stone, Wentworth, York-
shire

James Wright Burnham Overy,
Norfolk
Jeffrey Dawtrey, Petworth, Sussex.

MAY 18TH.

John Davis Barford, Gayhurst, Buck-
inghamshire
Alexander Mavor, London
Robert Gibton
Charles Turner, Carshalton, Surrey
Thomas Cunliffe, Blackburn, Lanca-
shire
Richard Glengall Kelly, Borrisokane,
Ireland
John Magrath, Castlebellingham,
Ireland
John Humphreys Lane, Goulton,
Wilts.

MAY 25TH.

Joseph Sampson Gamgee
Forbes, A., Hely
William Thomas O'Donnell
Henry Michael Hancock
Joseph Lawrence.

MEMBERS OF THE ROYAL COLLEGE OF VETERINARY SURGEONS
PRESENT AT THE ANNUAL GENERAL MEETING, MAY 7, 1849.

Baker, G.
Burley, W., jun.
Braby, Edw.
Brown, G. T.
Barton, C. E.
Cherry, F. C.
Cherry, Arthur
Coley, W.
Cox, J. R.
Daws, H.
Ernes, W.
Fowler, Abraham
Field, W.

Gloag, J. W.
Gabriel, E. N.
Godwin, W. J.
Gowing, T. W.
Huntriss, J. R.
Henderson, A.
Henderson, A. B.
Hooper, H. W.
Hunt, R. S.
King, Francis
McGinnis, W.
Nice, Josh.
Percivall, W.

Pritchard, Richard
Peech, Samuel
Smith, W.
Spooner, C. (Professor)
Turner, T. (President)
Varnell, G.
Vines, R.
Wardell, W.
Waters, G., jun.
Withers, S. H.
Yeomans, G.

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No. 19.

CONTRIBUTIONS TO THE PATHOLOGY AND PRACTICE OF
VETERINARY MEDICINE.

By W. HAYCOCK, *Veterinary Surgeon*,
(Member of the Veterinary College, Edinburgh)

King-street, Huddersfield.

SIXTH CONTRIBUTION.

Rheumatism, Pleuritis, &c.

CASE I.

Dec. 3d, 1846.—Was requested about four o'clock P.M., to attend upon a horse the property of Mr. J. Scott, coach proprietor in this town.

History, &c.—The animal is of a grey colour, stands fifteen hands three inches high, is three parts bred, and six years of age; he is of a spare conformation, long in the extremities, small in the body, flat in the ribs, and large in the head: he is a bad feeder and a bad thriver; has been in the possession of Mr. Scott about a year, during which period he has suffered thrice from the effects of colic; he has also on several occasions been affected with cough: his business is that of a leader in a stage coach, to run six miles and a half out and six and a half in for five days a week. About a week ago this said horse was attacked with the (then) prevailing epizootic, from which he is now rapidly recovering. Within the last ten or fifteen minutes the man in attendance fed the animal pretty liberally with hay, and in a few minutes after he had begun to eat he was heard to cough, and commence struggling violently, and to breathe with great difficulty; when my attendance was immediately requested.

Present Symptoms.—Pulse 48 per minute, and respirations 16 ditto; the eye has a wild appearance; the extremities are of a normal temperature; thick ropy saliva issues in profusion from the mouth; a râle is present in the trachea, so loud that it can be

heard for a considerable distance; it resembles the sound occasioned by the sawing of wood, can only be detected during the act of inspiration, and it appears to be limited entirely to the larynx: the chest heaves violently; partial sweats exist over the shoulders and around the flanks. I immediately procured a ball-iron, and carefully examined the larynx and the other organs in immediate connexion with it, but failed to detect the lodgment of any foreign substance.

I tried a variety of simple remedies to afford the horse relief, without effecting the least good. In about an hour after I was called in, the breathing had become so difficult that I was compelled to resort to tracheotomy, which had the effect of giving immediate relief, so much so, that in a short time he became perfectly cool; the rasping sound entirely subsided, and the horse lay down apparently quite comfortable. During the evening the animal was several times tried with chilled water and mash, which he refused on every occasion.

4th.—The saliva still continues to run from the mouth as abundantly as ever. This morning he swallowed about two quarts of thin gruel, but appeared to suffer pain in so doing. Apply a blister to the throat, and clean the tracheotomy tube. During the day no particular alteration occurred.

5th.—Can swallow better; has eaten a small portion of mash apparently without any difficulty. Pulse 40 and respiration 11 per minute; breathes in part through the tube, and in part through the nostrils. Saliva still dribbles from the mouth. Blister around the throat has acted well, and in every respect is progressing favourably.

Eight o'clock, P.M.—During this evening he has begun to shew lameness in the near hind leg; the lameness, however, is not severe. I had the shoe removed, and examined the foot, but failed to detect any lesion there. The limb to be well fomented with hot water from the patella joint to the foot. Gave the following in a drench:—

R	Aloes Barb.	3vj
	Spts. nitre.....	3iss
	Sodæ carbonas.....	3ij
	Aquæ	3vj

6th.—Swallows gruel very freely. Can eat bran mash and hay. Pulse 45, regular and full; respiratory murmur throughout the chest on both sides normal. Has dunged once, which is of regular consistence. Repeat fomentation to the limb. Gave in a drench

R	Pulvis camphoræ.....	3j
	Potass. nitratis.....	3ij
	Antim. tart.	3j
	Spirits of nitre	3ij
	Aquæ	3vj

Eight o'clock, P.M.—Much the same in every respect as in the morning. Medicine not yet operated. Can eat mashes and drink gruel freely. Repeat draught, &c.

7th.—Eats his mash and drinks his gruel with zest. Pulse 44, respirations 12 per minute; lameness in the hind limb remains much the same; the hock joint is slightly swollen, and it is a little tender when pressed upon. I removed the tube from the trachea, and placed my hand over the opening, when I found the horse could breathe with ease without it. The medicine has not yet operated. He seems lively, and yet I do not altogether like his appearance: the muscles of the body have a tightened character, and, when I move him round in the stall, I can detect a feeble grunt. To have additional clothing placed over him, and gently exercised in the yard for about half an hour. Afterwards repeat the draught, to which add aloes ʒij.

Eight o'clock, P.M.—All at once the animal began to breathe quicker, and hold up the near fore leg; respirations are now at 15 and pulse at 50 per minute; he breathes through the nostrils, and the saliva has ceased to run from the mouth since yesterday. The cramped state of the abdominal muscles has increased in that respect since morning; respiratory murmur clear through both sides of the chest. Medicine not yet purged. Abstracted five quarts of blood from the jugular. Gave the following in a drench:—

R	Aloës Barb.....	ʒiv
	Sodæ carbonas	ʒij
	Potass. nitratis	ʒij
	Spts. nitre.....	ʒij
	Aquæ.....	ʒvj

8th.—Pulse 46 and respirations 10 per minute. The fore limb is more painful than it was last night; the pain in the near hind limb is also increased in intensity; the front of the knee of the fore limb is swollen; the same again along the course of the back tendons and in front of the fetlock joint; the abdominal muscles are relaxed in some degree. Gave the following:—

R	Potass. nitratis	ʒij
	Pulvis camphoræ	ʒj
	Pulvis colchii	ʒij
	Spts. nitre	ʒj
	Aquæ.....	ʒvj

Eight o'clock, P.M.—Pulse and respirations the same as in the morning; pain in the hind limb less acute; in the fore leg it is more severe, and he is very averse to having it touched, however lightly the hand is laid upon it. Dung pultaceous. Drinks moderately freely of water, and has eaten a small portion of boiled oats.

Insert a large rowel between the fore limbs; and repeat the draught.

9th, Seven o'clock, A.M.—Lameness in near fore leg better; he stands upon it firmly, but it is difficult to make him move. The pain in the hind limb appears much the same. He has not lain down during the night. The physic is purging pretty freely. Pulse 47, soft and round, and respirations 9 per minute. To be fed with boiled corn, and thick gruel to drink. Repeat draught.

Twelve o'clock, A.M.—He is suddenly worse. The pulse is very peculiar in its action; sometimes it beats full, round, and soft; then it commences beating with violence, and gradually becomes more gentle; its average beat is about 58 per minute. The action of the heart is very similar; the sounds of the heart are very audible, and simultaneous with the sounds is a noise closely resembling that caused by rubbing the hands gently together: the respiratory murmur in every part of the chest over its left side is clear; towards the bottom of the right side it is faint, while superiorly on the same side it is clearly audible. Gave in a draught—

R	Pulvis colchii.....	3ij
	Pulvis opii.....	3j
	Pulvis camphoræ	3j
	Spts. nitre.....	3j
	Aquæ	3vj

Eight o'clock, P.M.—About two o'clock he began to improve a little, and remained better until within the last hour; now he is worse. Pulse 60, and tumultuous; respirations 16 per minute; respiratory murmur at the inferior region of the right side of the chest more dead, both in the character of the sound and in the extent over which I can detect it. Rubbing sound over the region of the heart more intense; the rowel discharges pretty freely. Dung pultaceous. The hair to be closely cut from both sides of the chest, and a strong blister applied over the exposed portions.

10th.—No appetite; has lain down during the night; pulse 48 per minute, and regular, respirations 12 do.; places the left fore foot more freely upon the ground; pain in the left hind leg still very severe, attended with hot puffy swellings, which exhibit very acute sensibility when pressed upon; he also moves better in the stall. Dung pultaceous; the muscles of the abdomen still retain the cramped state they presented on the 7th: repeat draught.

11th.—Improving; moves better; pulse 40 and respirations 12 per minute; muscles of the abdomen not so hard; rowels discharging freely; blisters have acted very well. Repeat draught; to be gently exercised for a few minutes.

12th.—Appears much the same as yesterday; the appetite is a

little improved, and he moves more freely. Continue medicine, hand-rub the extremities, and wash the blistered surfaces.

13th, 7 o'clock, A.M.—This morning he is considerably worse; appetite gone; stands obstinately in one position, and appears as though only half conscious; pulse 60 and respirations 17 per minute: the pulse is hard and regular; the respiratory murmur through the right lung is greatly subdued; the same through the lower half of the left lung; the panniculus muscle over the trunk is thrown into longitudinal masses; a short grunt is emitted during the act of inspiration. The opening in the trachea is nearly grown up, and the breathing is freely carried on through the nostrils. Abstract six pounds of blood from the neck, and give the following in a drench:—

R	Ammonia sesquicarb.	3ij
	Pulvis colchii.....	3ij
	Pulvis camphoræ.....	3j
	Spirits nitre.....	3ij
	Aquæ.....	3viij

During the day the symptoms varied considerably from better to worse. The blood which I abstracted I examined after it had stood in the vessel about four hours; the coagulum was very firm, deeply cupped upon its surface, and nearly the whole of its mass consisted of fibrin.

Nine o'clock, P.M.—To-night the animal is again much worse; the muscles of the abdomen and neck are severely cramped, and the joints of the left fore and hind limbs are so exceeding painful, that it is dangerous in some degree to touch them. he attempts to bite, and dash himself upon any one going towards him for such a purpose: the pulse is 84 and respirations 32 per minute; the action of the pulse is irregular or tumultuous; he grinds his teeth, lays down occasionally, and appears as though suffering from colic. Gave a draught to allay the intestinal pains, and left with almost a certain conviction of finding the animal dead in the morning.

15th.—Has continued to grow weaker since last night; pulse 89, respirations 44 per minute; the heart beats with a strange jerking action, at one time quick, then it suddenly stops for a period of five or six beats, and commences again, furious as ever: he sobs violently, and perspires in patches, which is cold and clammy; he is greatly emaciated, and has become, in fact, the mere ghost of a horse. He died about 11 o'clock, A.M.

Examination, three hours after Death. Organs of the Chest.—The cavity of the chest contained about three quarts of serum; the pleura in connexion with the ribs, on both sides of the chest for about three parts of its depth, was much roughened and intensely congested; the colour of the membrane varied from a faint-like

green to a dark purplish kind of red ; the tissue could be separated from its subtextures, leaving a dull red surface exposed ; portions of lymph floated in the effused liquor. The pericardium was greatly inflamed, particularly over its internal surface ; it presented the same roughened and congested state the pleura did ; the bag contained from a pint to a quart of serum, in which was deposited three or four slender strings of lymph : the valves of the heart, particularly those of the left ventricle, were considerably roughened from inflammation : both ventricles contained clots of firm coagulated fibrin ; the weight of the heart was exactly six pounds twelve ounces avoirdupois. The lungs themselves were much congested, but crepitous throughout.

Muscles, Joints, &c.—The muscles of animal life were normal in every respect. I carefully examined the joints, particularly those so much tumefied. The cellular tissue immediately under the skin contained a quantity of serous fluid*, intermixed with which was a deposit of glairy colourless matter of the consistence of thin jelly ; this deposit existed in the greatest quantity around the lower and tendinous portion of the “ extensor metacarpi magnus.” The subtextures were also highly congested with small vessels ; the internal surfaces of the synovial membranes were of a dusky blue red colour, and the synovia was turbid.

Air Passages.—The trachea was filled with frothy spume ; its mucous membrane was shadowy, with portions here and there more injected than the rest ; the same with respect to the nasal passages and the bronchial tubes. The mucous membrane covering the larynx and pharynx was swollen, and exhibited patches of a livid colour : around the edges of the epiglottis was greatly tumefied, in which was embedded, as it were, several small ulcers, with very ragged borders. The floor of the larynx contained one large ulcer of about the size of a shilling ; very little force was necessary to slough the membrane from the cartilages and structures in connexion with it.

Brain, &c.—The colour of the brain was not good, nor was its tissue so firm as it ought to have been ; its ventricles contained serum, a small quantity of serum was also effused at its base. The spinal cord was clearer in colour and firmer in substance.

Digestive Organs, Bloodvessels, &c.—The stomach contained but a very small portion of food ; the small intestines were pale in colour, and contained a brown watery matter ; the large intestines were nearly empty ; the arteries and veins were normal, and their structures moderately firm.

* I speak of all the joints of the left fore and hind legs, below the patella and elbow.

CASE II.

June 9th, 1845.—Was requested, about 8 o'clock A.M., to attend upon a waggon horse, the property of Messrs. Carver and Co., carriers, &c. in this town.

History, &c.—The animal is of a dark brown colour, eight years of age, of the heavy draught breed, and stands sixteen hands one inch high. In conformation he is short in the neck, moderately sized in his head, very large in the body or abdomen; and short in the extremities, which are of good bone, and free from long hair. He has been in the possession of the firm about two years, during which period he has always been a very hearty animal. His business is that of working in the waggon shafts between here and the Brighouse railway station, a distance of little more than four miles, and over good road; the labour regularly is heavy, and at certain periods very severe. Along the road, on the evening of the 7th, he began to exhibit symptoms of lameness in the left fore leg; during the day he had eaten well and worked well, though the driver had heard him several times, during the last few days, utter a low short grunting sound, particularly if turned quickly round in the stall. When he arrived at his journey's end, he was placed in a comfortable stable, and fed with a hot mash, which he ate with avidity. The day following (Sunday) he was treated similarly, but the lameness was observed to be more severe, and the breathing at times to be greatly hurried. The shoe was removed, but the foot was found free from disease. This morning he appeared so much better as to be able to resume his work, but, on arriving in Huddersfield, he was very ill, and I was requested to attend.

Present symptoms.—Three of the extremities cold; the right fore limb hot; great tenderness is evinced when pressure is applied to the left side of the chest; pulse 50 and respirations 20 per minute. The pulse has a hard jerking kind of action; tracheal and bronchial respiration loud, and somewhat harsh; respiratory murmur over the right side perfectly clear, over the left side it is obscure, or rather, I should say, subdued greatly in its tone. Just before my examining the horse, he had partaken of a large bucket of mash and a small portion of hay, so that I deemed it best to wait a short time before giving medicine. On going again in about an hour afterwards, I found him to have become suddenly worse; the respirations had increased to 45 per minute, and the pulse to 64, and very firm. The nostrils were widely dilated, and the animal trembled violently. The head was rested upon the border of the manger, and the eye had a dull leaden look: along the chest on each side the "panniculus carnosus" muscle was thrown into ridges, having deep furrows between them. The left fore leg was

advanced and in a semiflexed state, and every time inspiration took place it was accompanied with a sharp grunting sound.

Treatment, &c.—Bled to the amount of ten pounds; had the extremities immersed in warm water, afterwards wiped dry, and lightly bandaged; administered an injection, had the animal removed into a loose box, and gave a draught suitable for the case. In about an hour after the draught was given the pulse lost its hard character, and rose to 76 per minute, while the respirations fell to 22. The trembling ceased; the muscles of the abdomen became relaxed, and the fore limb was placed firmly upon the ground: in from two to three hours afterwards the pulse had fallen to 42 per minute, while the respirations remained at the number above stated.

Eight o'clock, P.M.—Pulse 66 and soft, respirations 33; the left fore foot is again put out; panniculus and muscles of the abdomen cramped, and drawn into furrows: every now and then the animal sighs deeply, and utters a low grunt; respiratory murmur over the left side of the chest more veiled than in the morning; dung regular. Clip the hair away from the lower half of the left side of the chest, and rub a strong blister over the exposed part; repeat draught, and again bathe the extremities.

10th. Seven o'clock, A.M.—Pulse 74 and soft, respirations 30; the blister is beginning to cause extensive swelling; respiratory murmur through the left lung more clear. The extremities are of a normal temperature; he shews an avidity for water; the eye looks lively and clear, and the left fore limb apparently is free from pain; muscles of the abdomen softer. Repeat draught, and warm fomentations to the extremities. During the day the symptoms varied considerably in intensity; sometimes the pulse was as low as 46 and 48, and sometimes as high as 70; the respirations varied also. In the evening I found him greatly improved in every respect; repeated the draught, and left him for the night.

11th. Six o'clock, A.M.—The man in care of the horse came in great haste to request my immediate attendance; the animal, he said, had suddenly become worse. The panniculus and muscles of the abdomen have again become cramped; respirations 45 and pulse 62 per minute; the respirations are short and catching. Occasionally a deep sigh is heaved, and a low moan indicative of acute pain; now and then a panting fit appears, which is of short duration; the sides of the neck, shoulders, and flanks, are covered with perspiration. The pulse is hard and very irregular; now it beats hurriedly, and every eighth or ninth beat it suddenly stops a period of about three beats. Acute pain has suddenly manifested itself in the left hind leg; the toe is advanced, and he is very averse to having the limb fingered. I immediately had recourse to

bleeding; I let the blood flow from a wide orifice until the pulse began to falter, and lose its hard beating action: also gave a draught, administered an injection, and had the hind limb fomented with warm water, and afterwards lightly bandaged.

Eleven o'clock, A.M.—Every bad symptom appears to have gone; the breathing is very tranquil, and pulse 56, round and soft; the surface of the body is dry. The dung is pultaceous, and the animal has a lively cheerful look. He continued better throughout the day, but towards night he was a little more feverish.

12th. Eight o'clock, A.M.—Better in every respect; physic is purging very gently; pulse 49, and respirations 15 per minute: extremities warm, and free from pain; appetite not good: to have a few boiled oats to eat, and some gruel to drink; draught repeated.

13th. Eight o'clock, A.M.—Pulse 46, round and regular; respirations 15 per minute; looks cheerful; has lain down during the night; medicine continues to purge gently. Continue the boiled corn; hand-rub extremities, and repeat draught.

15th.—Is wonderfully improved in spirits and appetite; pulse 40 and respirations 10 per minute; the animal to have walking exercise, and the extremities to be well hand-rubbed.

17th.—Pulse normal; appetite and spirits good; respiration a little hurried, which I think arises from the soreness caused by the blister. Continue the walking exercise, and feed in a regular way, only less in quantity. Cured, with the exception of the effects upon the side arising from the blister.

State of the Blood.—The blood, on both occasions, was caught in a deep narrow vessel; the first time the horse was bled the current throughout was very dark, and its flow was free; but after it had stood in the vessel about two hours I examined it carefully, and the vessel contained but a very small amount of serum; the clot was uncommonly firm—it admitted of being rolled about without any portion of the mass separating from the rest; the entire mass weighed 10 pounds; it was cupped on the surface; eight inches of its depth consisted entirely of fibrin, at the bottom of which was a fine layer of corpuscles, exactly three inches in depth; the fibrin did not pass gradually into the dark coagulum; on the contrary, the transition was sudden and clearly marked. On the second occasion I abstracted more in quantity from the animal; its weight, however, I did not ascertain: the coagulum was not so firm, nor the fibrin so abundant; the layer of fibrin measured five inches and a half in depth; the rest was corpuscles; the transition from one to the other was gradual, and the serum was rather more abundant.

Remarks.—In Case I of the present Contribution, the animal

was first affected with epidemic catarrh, from which he was rapidly recovering, when at the period stated he was seized in the manner detailed—a state which I considered to arise from the retention of food in the pharynx or esophagus, and which one or two facts in some measure warranted; first, from the flow of ropy saliva from the mouth; and, secondly, from the extreme suddenness of the attack; on the other hand, the absence of all attempts at vomiting, and my not being able to detect the lodgment of any foreign substance in or around the organs where the obstruction to respiration evidently existed, made the question as to the real cause somewhat dubious. The obstruction I now regard, however, as having arisen from a spasmodic action of the muscles of the larynx, induced, without doubt, from the animal being attacked with cough at the moment the act of deglutition occurred, by which means a portion of food fell into the larynx, and produced the violent state of spasm—a state, the fatal effects of which were only counteracted by having recourse to tracheotomy*. The inflammation of the mucous tissues, with the consequent œdema and ulceration of the same, I regard as consecutive upon the irritation also. On the evening of the 5th, rheumatic lameness manifested itself in the left hind leg; on the evening of the 7th in the left fore limb; while at the same time I first observed a cramped state of the abdominal muscles in connexion with a short grunting noise, symptoms which indicated disease of the pleura, and which on the 9th became clearly evident from the subdued tone of the respiratory murmur through a portion of the right lung. On the evening of the 9th the dulness was increased, accompanied by a friction sound over the region of the heart. From the morning of the 10th until mid-day of the 13th no particular change was observable, when the symptoms generally became aggravated; the most prominent of which were, increase of the pulse and respirations, partial loss of consciousness; abdominal muscles more cramped: loss of respiratory murmur through a greater portion of the right lung, with simi-

* “There are three classes of cases in which the operation of tracheotomy may be required. The first of these is that of any disease of the larynx itself, or the immediately adjacent structures, by which its orifice or course may be obstructed physically or mechanically.

“The second is that of reflex action, or *spasmodic* closure of the glottis, induced through the irritation of the superior laryngeal, or some remoter incident nerve, and the recurrent, or the medulla oblongata, *spasmodic laryngismus*.

“The third is *Catalysis* of the pneumogastric nerve, or, it may be, of the medulla oblongata—a condition attended by collapse, and partial closure of the glottis or larynx, *paralytic or catalytic laryngismus*.”

On the Operation and Application of Tracheotomy,”

by Dr. Marshall Hall, Lancet, April 7th, 1849.

lar attendant phenomena through the left; the whole of which gradually increased in intensity until the 15th, when death closed the animal's sufferings.

In Case II, the pleuritis and the rheumatism appeared to manifest themselves simultaneously; several days before I was called in the short grunting sound was observed, along with lameness in the left fore leg; while on the 8th (the day previous) the breathing at times was disturbed, and the lameness more severe. On the 9th, the symptoms generally were heightened, while on the morning of the 11th a violent increase was exhibited, with lameness in the left hind limb, which was subdued and fortunately eradicated, principally, I think, by the copious abstraction of blood.

The peculiar state of the blood in these cases merits a few observations; in both, more than three parts of the entire quantity abstracted consisted of pure fibrin, with but a very small proportion of serum, accompanied with remarkable firmness of coagulation, and a cupped state of the surface. "The most important fact substantiated by Andral, is one that had been previously suspected—the invariable increase in the quantity of fibrin during acute inflammatory affections, the increase being strictly proportional to the intensity of the inflammation, and to the degree of symptomatic fever accompanying it. . . . The augmentation of the quantity of fibrin is so certain a sign of inflammation, that, if we find more than 5 parts of fibrin in 1000, in the course of any disease, we may positively affirm that some local inflammation exists. . . . The greatest augmentation is seen in pneumonia and acute rheumatism*." In the *Cyclopædia of Practical Medicine*, article Rheumatism, vol. iii, the author, Dr. Barlow, appears to strongly hold the opinion, that this excess of fibrin is, in many instances, the immediate cause of acute rheumatism; and in support of this view he also quotes several passages from Andral, among which I select the following:—"Now, if we mark the symptoms and progress of acute rheumatism, we find that very often a well-marked febrile action, with a strong re-action but without any symptom whatever of local affection, precedes the pain. In a word, there is first an inflammatory fever, and then rheumatism. Next, observe the extreme mobility of the rheumatic pains. They run along, in a manner, wherever the blood is distributed; the application of leeches often removes the pain from one part, but it soon shifts to another, and not unfrequently it quits the articulating tissues, and fixes on different internal organs, producing, by the derangement of their functions, symptoms more or less severe. It often happens that bleeding from a large orifice puts an end to the disease, as if

* Carpenter's Principles of Human Physiology.—Andral.

by diminishing the mass of blood, it proportionally diminished the stimulus that promoted all these shifting irritations."

Now, whether an excess of nutritive matter in the blood is ever an immediate cause of acute rheumatism or not, is a question which I decline to enter upon; certain it is, however, that a plethoric state of the system highly predisposes it to acute inflammatory attacks: in horses this is particularly exemplified in the production of lymphatitis: the least scratch or abrasion of the skin of the extremities produces a most violent inflammatory attack, apparently over the whole limb; and it is only by promptly reducing the system that the affection can be subdued. Lameness in the horse from rheumatism is, I am certain, more common than is generally suspected. I have had, and am having regularly, numbers of cases brought to me where the animals evince lameness when trotting, sometimes in a fore and sometimes in a hind limb, yet no lesion can be detected either in the synovial capsules or elsewhere. If the lameness be severe, I treat constitutionally; if not severe, I simply advise warmth and gentle labour. Its commencement, at times, is very insidious: lameness is manifested, perhaps, in a fore limb, and, upon examination, a little puffiness is detected down the course of the flexor tendons, or confined to the fetlock joint, for which is prescribed a few days' rest, and the application of cold water bandages, or a strong stimulating liniment; in the course of a day or two, and sometimes in the course of a few hours, similar phenomena present themselves in the other limb. The animal now becomes feverish, and the disease spreads, producing extensive swelling of the knees, tendons, fetlocks, and, occasionally, even the shoulder joints. In some cases, at this stage of the disease, the patient will lie constantly; in others, again, the standing position will be obstinately maintained. A very common cause is that of washing the limbs with cold water when the animal is in a strong state of perspiration, and allowing them to dry of themselves. If the constitutional energies are vigorous, and the treatment prompt and judicious, recovery generally takes place in six or eight days; but if the animal is neglected, or the treatment not proper, the disease may linger for a long time, and the limbs remain permanently thickened. It is a very common affection in cows and fancy bred dogs, particularly when they are fat and in a plethoric state. In Case I, the disease exhibited a close resemblance to rheumatic gout in the human subject; the synovial membranes were affected, and the synovia when exposed I found to be thick and turbid, conditions which I find described as being observed by surgeons in the joints of human beings who had suffered severely from rheumatic gout.

Another point which I must, in conclusion, touch upon is, that

in Case I, on the morning of the 13th, the animal began to exhibit disease of the heart, and in association with it was a partial loss of consciousness, an association which, from the following, is common in the human subject, and proves, in a satisfactory manner, its identity in the two:—"Patients labouring under rheumatic carditis very frequently become affected with delirium, or violent mania, or stupor and coma, or convulsions, or all of these in succession: and you might suppose that they were labouring under inflammation of the brain or of its membranes. Such cases are, in fact, spoken of as cases of *metastasis* to the brain. It may sometimes be so, nay, I know that it sometimes *is* so; but not often. Again and again, when death has occurred, and the delirium had been extreme, no traces of disease have been discoverable within the skull, while *marks of violent and intense inflammation were visible in the pericardium*. I presume that the acute cardiac affection interferes somehow with that regulated supply of blood to the head which is necessary for the due performance of the cerebral functions. But whatever the explanation, recollect the fact; and whenever, in acute rheumatism, you will find your patient flighty and wandering, or more distinctly delirious, examine carefully the condition of his *heart*."*

EXPERIMENTS ON THE EXPANSION OF THE HORSE'S FOOT.

By J. W. GLOAG, V.S., 11th Hussars.

[Continued from p. 323.]

22d Experiment.

SUBJECT the same as the preceding.

A similar shoe was applied to the other fore foot, but the heels of the foot were now considerably cut away, so that there was a space between the shoe and the foot at that part. The inner surface of the upright iron was well oiled, and the angular space between it and the hoof completely plugged up with prepared wax, which was pared even with the edge of the iron (this was done with the foot in the air). The horse was then made to support his weight upon the leg.

Result.—Immediately the foot came to the ground there was a yielding of the foot downwards and backwards, until the heels of

* Watson's Lectures on the Practice of Physic, vol. ii, p. 275-6.

the foot touched the heels of the shoe; at the same time, whilst the horse's foot was on the ground, and the position of the wax being then examined, I could see there was a space of a quarter of an inch between the upper part of the wax opposite the coronet and the iron, and this space regularly decreased until it ended in a point at the lower surface, thus shewing the angle of declination. On lifting the foot the wax was immediately close to the iron. On making the horse walk about (in this and the preceding case, and, indeed, in every other experiment of a like character) I found that there was a deep indentation in the wax at the upper part from the bulging out of the coronet.

Observation.—It is, at all events, very plain from this experiment, as well as from every day's experience, that the foot will yield backwards if the heels are sprung.

23d Experiment.

I performed several experiments, by first placing a shoe on a horse's foot evenly to the heels, and having well oiled the sole, filling it at various parts with prepared wax, and then making the horse walk about; but I could not perceive that any separation whatever appeared to take place between the sole and the wax at any part of the foot. I then applied a shoe sprung at the heels, and, having filled it with wax as before, I found that at the quarters of the foot the wax became separated, with an interstice between it and the sole, from the yielding of the whole hoof backwards.

Observations.—The sensible sole is much thicker and less vascular at the heels of the coffin-bone, which is also tipped with cartilage, apparently to allow of this backward action of the foot: and how prone are the heels of horses to bruises producing corns from this cause! I am of opinion that, under common circumstances of shoeing, there is scarcely any descent of the horny sole; and I believe the sole is frequently much benefited by a certain degree of pressure, or rather support, at its anterior part; that a shoe with a flat upper surface, in moderately good feet, is desirable, and that the lamina are relieved by the sole taking a certain degree of pressure. I may here remark, that it frequently happens, with heavy horses having flat feet and shelly crusts, the horn, from many causes, will at last not hold a nail, and that the crust is broken off: under these circumstances the horse is, perhaps, turned loose into an ordinarily paved stable, until the wall of the crust grows down. But do we not find, by this treatment, we must of necessity force the sole to bear a very great amount of pressure, and that it is attended

with decided benefit to the horse, as we thus relieve the distressed laminæ?—but as soon as ever the crust is sufficiently grown to enable the animal to wear a shoe, the rationale of the means by which this horse's feet have been brought to a more healthy state is generally forgotten, and a deeply-seated shoe is again applied to the foot, for fear of pressing upon the sole; thus opposing the narrow edge of the seating of the shoe to the weak edge of the hoof, to the detriment or destruction of the foot. Some practitioners carry the principle of the sole being able to sustain a certain amount of pressure still farther; for in some stages of laminitis they pare the edge of the crust of the hoof away, so as to make the animal bear the principal part of his weight on the sole, and thus to relieve the laminæ. By similar reasoning, in chronic laminitis affecting large cart-horses, how common is it to apply a bar-shoe, made so as to rest principally on the frog (which in these cases is usually large and soft), and thus, by transferring a portion of the weight to this organ, the laminæ are relieved, and the animal is enabled to work.

24th Experiment.

Subject a heavy cart-horse, having a good foot, moderately concave.

A very small tip was made, measuring about three inches, and to the toe of it, and at right angles to it, a piece of flat iron was welded, which would stand up perpendicularly in front of the hoof. This tip was applied as much on the sole as possible, and was let into the foot by a piece of iron being cut out, and the tip being heated and burned into its place. A piece of horn was also taken out of the toe of the foot, to allow of the iron standing straight up. The lower surface of the crust was made as level as possible. The inner surface of the upright iron was now well oiled, and the space between it and the anterior part of the hoof, as high as the coronet, was plugged up with prepared wax, and the edge of the wax pared even with the upright iron. The horse was now made to stand on the floor of the forge, which was slightly of a yielding nature, and he was made to support his weight on the limb, by having the other leg lifted, and pushing him back. [N.B. The wax should not be at all stiff for this experiment, else it will spring or push out the iron, and thus defeat the object in view.]

Result.—Whilst the weight was being thrown upon the foot the wax evidently separated from the iron, as also from the anterior part of the hoof; so that in this particular case the wax became quite loose in its place. On lifting that leg, the wax was again firm and tight. On making the animal walk about, there was a considerable bulge perceptible in the wax at the coronet; but I

have before mentioned that this occurred in every case I tried, and it deserves very particular notice.

Observations.—I consider this experiment decidedly unfair towards producing this action, inasmuch as any thing nailed or fixed to the hoof in any way must, more or less, partake of its motion. I have felt reluctant to give this experiment, as I know it will prove very unsatisfactory, although the motion of the hoof will be seen by this means on some horses; but it is an experiment quite unfitted for the purpose. I have tried it on many horses, and in most of them I have failed to shew it: in others it was evident. I did not succeed in shewing this action by such means on light horses. In any experiment, the great difficulty of shewing whether this motion of the hoof exists, consists in planning something that shall act quite independently of the hoof, (for, as I said before, any thing fastened to the hoof must partake of its motion,) and that shall be able to measure the angle of obliquity in all situations in which the foot may be placed. I trust that a better plan will strike some of the readers of this paper. I believe this motion in light horses is very slight; but I am convinced it must go on, more or less, in a state of nature, in all description of horses. In what other way can we satisfactorily account for the increased width of the heels often produced under certain kinds of shoeing, as with tips, one-sided nailing, bar-shoes, or the old panton shoe of Solleysel? How else can we account for the ease obtained by the use of these shoes, as also with shoes having some elastic material between them and the hoof at the heels and quarters only?

That the foot of the horse does at times become wider at the quarters under certain treatment and modes of shoeing, will not, I think, be denied; and if such be the case, it can only be produced, I consider, by the gradual growth of parts from their being left at liberty, and by their being called upon to perform certain functions compatible with their organism, and which they could not previously perform to the same extent. Increased growth of parts will not go on without increased action, for Nature gives nothing superfluous. It is easy to perceive that any sudden attempt to expand the foot at the quarters must be productive of the greatest pain and inconvenience to the animal, by placing many delicate membranes on the stretch; and as the horny sole is an arch, and is intimately united to the concavity of the coffin-bone, it is pretty clear that the former cannot descend and force out the walls except it be pressed down by the coffin-bone; but as this happens to be a bone, and will not bend, I cannot see how the sole is to receive the pressure to force out the walls. It may appear strange that it is so difficult satisfactorily to demonstrate the downward and backward action of the foot; but I cannot plan a suitable experi-

ment, although such numbers of practical observations tend to the proof. We need not be surprised at this, when we reflect how many clever men have written on the subject of the horse's foot, and advocated its expansion at the quarters, and the descent of the sole and frog, until for the last half century these theories have been taken as truisms, and it is only now we are beginning to feel doubts and hesitation on the subject. I believe that a downward and backward action of the foot could not be produced under any circumstances if it were not consonant with its organism. A valued friend of mine started an objection, that, because the laminae all round the hoof are arranged nearly in a circle, therefore it was impossible they could yield backwards, else they would be yielding in directions contrary to their fibres, that is, they would be giving way in contrary directions. How, then, is it that, on every occasion when the shoe will allow of this motion taking place, it will immediately do so, as in the common instance of sandcracks, or when the heels are sprung? How difficult, nay, impossible, do we find it to produce a motion which is not consonant with the organism! Can we by experiment shew an expansion of the quarters at the lower circumference?—or, under ordinary circumstances of shoeing, and with moderately concave feet, can we shew any descent of the sole? And yet on all occasions this downward and backward action of the hoof can be readily produced, merely by the weight of the animal, when the heels are left at all sprung. We see that if one heel is left at liberty this motion takes place in that quarter of the foot. When a horse stands unshod upon perfectly level and hard ground, it is similar to his standing on a well-seated shoe, and this action would not, perhaps, take place; but the horse in a state of nature seldom stands upon a perfectly flat surface, or, if he does, it is probably a yielding surface, and at one time one heel may be at liberty, at another the other; and the surprising changes that take place in the character of the horn of a horse left without shoes, or wearing tips, demonstrates that some peculiar action of the foot is wanting in the shod state, which puts the horny fibres comparatively out of use.

I believe that the stable treatment of our horses is frequently as great a source of lameness as shoeing; indeed, we have only to look round at the common horses employed in agricultural operations in the country to be convinced of this, seeing these horses frequently maintain uninterrupted soundness under every variety of shoeing. Our stabled, pampered horses suffer in their feet from a variety of causes. In a state of nature the sole and frog would be receiving a certain amount of pressure and moisture all day long, and the hoofs be also kept in a moistened state. The farm horse enjoys these advantages in his apparently neglected state. The stabled

horse is kept tied up in his stall nearly all day long, standing on hot litter, and this stall, for the caprice of fashion or to give the animal an appearance of greater height, is made very sloping to the front. This sloping of the stall is directly contrary to the position of the legs and feet, and the only way in which the animal can stand at all easy to himself is by either hanging back in the stall, or standing sideways, or by having his legs more under his body than he would do if he were standing on a plain surface. By standing in this position, the weight is thrown on the anterior parts of the foot, and the back parts are thrown out of use. The frog becomes dry, hard, and inelastic; the horny box also partakes of the same unyielding character; and the animal is in that state that he is liable at any moment to become the victim of navicular disease from pressure being applied to the hard insensible frog, and thus bruising the tendon passing under the navicular bone; and to a host of evils too numerous to enter into. It is thus too frequently we find the want of work producing disease; and I consider that attention to these points is most necessary to the well-being of the animal. The farm horse also enjoys a certain immunity from lameness which the high-bred horse does not; and this consists in the pace of work. The agricultural horse can work all day long at a pace of from two to three miles an hour, and upon the most favourable ground to keep the feet in health; whereas the high-bred riding horse has to perform his journey at a pace four times as fast, and the quicker the pace the more frequent the jar and concussion. We must not, therefore, wonder when by breeding we have got a surprisingly quick animal, that too frequently he is the subject of lameness; for if by breeding we have increased the motive powers two or three times over, we have not in any way increased the foot and the means of resisting this concussion, and our stabled horse does not usually enjoy the advantages of constant pressure and moisture, which tend to keep the feet healthy. It is for these reasons that our best horses are too frequently the subjects of lameness.

I may now briefly sum up what these experiments tend to prove:—

1st. That there is no appreciable lateral expansion of the quarters of the foot at the lower circumference under any circumstances of shoeing, the only expansion which takes place being by gradual growth.

2d. That when a horse is shod with a shoe laid evenly to the heels, the motion that takes place is a slight descent of the anterior part of the frog and the adjacent portion of the horny sole opposite to the navicular bone; a bulging out of the elastic tissue all round the coronet; and a swelling of the elastic materials at the

upper and back parts of the heels, caused by the bending back of the os coronæ on the elastic tissue at the heels, thus expanding the lateral cartilages; and that if the frog is brought into contact with the ground, it takes its share of duty, by its elasticity, in warding off concussion; also that the elastic periosteal tissue of the coffin-bone performs a most important part in warding off concussion, by allowing of a slight spring to the coffin-bone in every direction.

3d. That in a horse in a state of nature, or shod with the heels sprung, a certain action of the foot goes on in addition; namely, a slight declination of the whole hoof in the direction of its fibres: thus allowing the heels and base of the frog to descend, which I consider to be the natural action of the foot, and that by shoeing we prevent this natural backward and downward action.

4th. That the descent of the base of the frog is entirely governed by the descent of the heels; and that in ordinary shoeing the base of the frog is a fixture, putting this important organ greatly out of use; but that the slight descent of the frog and the adjacent parts of the sole, at the anterior part of the frog opposite to the navicular bone, takes place under all circumstances of shoeing.

5th. That there is no appreciable descent of the horny sole, in moderately concave feet, under ordinary circumstances of shoeing, except perhaps of that part of it adjacent to the anterior part of the frog, opposite to the navicular bone, which very slightly yields; but that with a shoe sprung at the heels, or when a horse is in a state of nature, there is a yielding backwards and downwards of the horny sole, together with the whole horny box.

6th. That there is not sufficient descent of the sensible sole upon the horny sole, under ordinary circumstances, to impede the circulation of blood in the foot, and that those beautiful provisions in the foot for the carrying on of the circulation seem to me rather designed to remove the possibility of obstruction to the course of the blood than as the general means by which that circulation is forced onwards.

7th. That the laminæ are nearly, if not altogether, inelastic; that they are very readily moved in their transverse direction, but not in their longitudinal direction; and that this movement of the laminæ arises probably from the peculiar construction of the elastic periosteal covering of the coffin-bone admitting only of these peculiar motions.

Believing these to be the principal points, I submit them to the careful consideration of the profession; feeling reluctant to bring the subject forward from knowing that the opinions here expressed are contrary to those generally received as truths, and that the present doctrines of the physiology of the foot have been so long regarded as established facts, that the ideas expressed in this

paper must, of necessity, meet with the greatest opposition. Many points require farther investigation; and the closer this intricate subject is inquired into, more difficulties may, perhaps, arise; but I hope enough has been said to arouse some abler heads than mine to take up the subject and follow it out, and I shall only feel too happy in being an instrument to direct attention to it. These experiments have been performed solely with a view of arriving at truthful conclusions, and not to support any preconceived opinions; and I trust they will be regarded as such, and prove the means of exciting others to investigate this interesting and important subject, that we may thereby come to some positive and settled opinion, and fully establish the true principles of the action of the horse's foot, without which no improvement in shoeing can rest on any solid foundation.

AN ESSAY ON THE MANAGEMENT OF THE FARM HORSE,

CONNECTED WITH THE BREEDING AND REARING OF THE ANIMAL; AND WITH THE MOST APPROVED PLAN OF FEEDING.

By ROBERT READ, *M.R.C.V.S., Crediton.*

“Order is gain: waste not, want not.”

[Continued from p. 326.]

Stable Feeding.

DURING winter farm horses are usually fed on oats, beans, hay, and occasionally on bulbous roots. In the management of feeding great caution is required. The maintenance of horses in good working order depends on a proper and suitable regimen; not to that system of engorgement or stuffing so ruinously carried on in too many farm stables. Of late years vast improvement has been made in the feeding and management of cattle; whilst the feeding of the cart horse has received but little attention. The quantity or quality of the provender allowed is rarely limited by the carter or waggoner (more especially hay), the rick or hay-loft is within reach of the rack, which is sure to be crammed in full, night after night; and in order to stuff it in still more full, the hay is frequently trodden down. Horses from this most injurious custom

consume a vast quantity of hay or other stamineous food; it is pulled down and trampled on, and wasted instead of being applied to the purpose of food. The loss sustained by the farmer in this way is rarely taken into consideration. The amount of loss by such reckless feeding may be safely computed at one-third of what is consumed. It is, therefore, quite clear that a great saving may be effected here, and much expense diminished. Another serious loss sustained by the farmer through the pernicious habit of feeding on a superabundance of stamineous food, is the production of broken-wind and other diseases of the respiratory system. I may venture to assert, without fear of contradiction, that there are more broken-winded horses in the stables of the farmer than in all other horse establishments; and the cause is, as I have before said, an unrestricted supply of food, without reference to either quantity or quality. In some stables, in which only eight or ten horses were kept, I have known one-half become broken-winded from gluttony. Another fruitful source of this disease is damaged hay, from being either ill-saved, mowburnt, or musty, with free access to water. Animals feeding on damaged hay acquire immoderate thirst; and therefore when turned out to the horse-pond or trough to drink, they are oftentimes allowed to fill themselves to excess; flatulence with distention ensues from the effect of a disengagement of gas, the product of the decomposition of the imperfect food; the lungs become restricted in their action, the due performance of which is necessary for the production of healthy blood and the maintenance of health. If such management is persisted in, disease must follow, and organic change ensue. Horses that are crammed with too much stamineous food become inactive, listless, and out of condition, and incapable of ordinary exertion, thus deteriorating their value and usefulness to man. Carters and waggoners fancy their horses are not doing well unless they are everlastingly eating, little suspecting the stomach wants rest as much as any other organ of the body; and a habit that has been so long grounded in them will be with no little difficulty removed, by impressing on them the conviction, that the plumpness and firmness of the muscular condition of an animal depends not upon the quantitative but upon the qualitative supply of food: they ought also to be taught, that the stomach of the horse is not large; thus demonstrating, that conveying nutritive food which occupies less room is far more conducive to health than an engorgement with food of which a vast quantity must be eaten to afford sufficient nourishment for the wants of the system. Some farmers allow their horses without limitation the haulms of leguminous plants, the bean and pea: in a dried state these often induce constipation and gripes; they are best suited for chaff. All food consisting of stamineous or leguminous stems

requires to be abundantly supplied to afford nourishment; a horse may be kept alive by feeding on straw or potatoes, which contain but very little azotised matter; but an animal so supported would exhibit a very meagre appearance. The quantity of food animals require for their support or nourishment diminishes or increases proportionately as the food contains more or less nitrogen. Recent discoveries, and the application of physiological science to the feeding of animals, will, when once understood by the agriculturist, be the means of affording him a clear idea in selecting the food best suited for the farm horse, and thus avoiding the unnecessary waste of the productions of the farm.

Azotised Food.

Under this head may be classed, as food for horses, oats and beans. The former is most in common use, and is the chief article in the diet of the working farm horse during winter feeding. Nothing excels good oats and hay, with a well-managed supply of beans. The object of the farmer is to have his horses in the best possible condition for enduring work. The possession of muscle is required for active exertion, and the muscular condition of an animal can only be obtained by the allowance of those materials identical with its own composition. The bean and oat take a pre-eminent stand in this respect. The value of the different kinds of food for the working animal varies with the quantity of azotised matter it contains. The horse intended for work need not be like animals intended for the butcher; an over supply of food, or stuffing them, as some do, with rich nutritious substances, is detrimental: it makes them too fat; and it ought always to be borne in mind that a fat horse is, comparatively speaking, a weak horse. A certain amount of fat may be required to make him appear comely by filling out different parts; but we must not forget, that the best condition for enduring labour is the development of muscle, and the maintenance of health and vigour by conveying as much into the stomach as is required to supply the waste and wants of the system. With regular and well-conducted dieting farm horses may be kept all the year round on "mixed or prepared diet." This has many very decided advantages. It soon fills the stomach, appeases hunger, and makes the fatigued or tired horse inclined to lie down. Mixed diet is evidently grateful to the animal; the avidity with which he partakes of it proves it to be suitable or congenial to his taste: so grateful is it to their wants if hungry, that other food remains untouched until the usual feed of compost is supplied. The habit of allowing, as some do, their horses to eat as much compost of oats, chaff, and bran, as they feel inclined, is very hurtful; engorge-

ment, whether of dry compost or of succulent provender, being alike the producer of disorder. The due apportionment of food to the horse, without allowing gluttony by free access to food whenever he pleases, is the grand secret in rendering all horses of every grade fit and able to perform the work imposed on them. By reference to the Society's journal, the composition and comparative value of the different kinds of food will be shewn, as being the result of the experiments of several eminent chemists. Subjoined is a Table of the different nutritive substances, from which the farmer or breeder can select that which is best adapted for the working horse, or for the support of the growing colt. They are divided into classes, called, the azotised or flesh-formers, and the non-azotised or fat-formers.

	Organic Matter.	Azotised.	Non-azotised.
100 lbs. Oats contain . . .	80	11	69
„ Peas	80	30	50
„ Hay	76	8	68
„ Potatoes	25	2	23
„ Barley meal	82	14	68
„ Turnips	10	1	9
„ Beans	83	31	52

This formula is compiled from Professor Johnston's Encyclopædia; nevertheless, the analysis of celebrated chemists may be liable to some imperfections. I will now endeavour to state the best and cheapest plan of keeping the farm-horse in condition for work, and not in that state which renders him more a matter of shew than service, attended with a useless waste of money and provender. The proper selection and arrangement of the diet of farm horses requires much more consideration than is usually bestowed on it; some have no plan or system at all. We may say nearly every farmer has his own peculiar method; it will, therefore, in this Essay, be almost impossible to lay down a fixed rule or principle in economizing the diet of the farm-horse. The annexed formulæ are for winter feeding, or during the time he is stabled, with the estimate of cost per week.

	s.	d.		s.	d.
No. 1.—7 pecks of oats, 70lbs.	3	6	No. 2.—7 pecks of oats, 70lbs.	3	6
8 pecks of chaff . . .	1	0	1 peck beans crushed	1	6
2 pecks of bran . . .	0	6	8 pecks of chaff . . .	1	0
120lbs. of hay . . .	3	0	2 pecks of bran . . .	0	6
7lbs. of beans . . .	0	6	140lbs. of hay . . .	3	6
	8	6		10	0

No. 1, the cost of which is about eight shillings and sixpence, will keep a moderate sized farm-horse in good working order;

No. 2 is for one of a larger bulk. Some may consider the hay too much; but it is positively requisite horses should have some bulk with their food to give them a fulness in the flank. Horses fed entirely on grain or pulse, or with only a little chaff, look gaunt and unseemly. It would be empirical to lay down any fixed plan of dieting. Every farmer should feed consistently with his work, considering whether it be on light or heavy land, requiring more or less labour. For winter-keeping the horse, an entire restriction to what is denominated dry, or manger feeding, is the most profitable, being attended with the least waste. Esculent or bulbous roots, turnips, carrots, and potatoes are frequently added to the diet of the farm-horse; from ten to fifteen pounds weight being usually given at a time. If too long continued with the working horse, it makes him perspire too freely under exertion, and excites the kidneys, and renders him more susceptible of catarrhal affections. Any bulbous or esculent food is more fitted, when given abundantly with meal or bruised corn, to get the horse in a condition fit for the dealer, and not for work, more especially if such work is heavy: on light work, and where not much muscular power is required, such diet may answer well. As a dietetic medicinal agent, turnips and carrots may be given to the stabled horse with good effect, in cases of swollen legs and cracked heels, with a scanty secretion of urine. Fatal cases of gripes, with tympany, every now and then occur from injudiciously giving too many in a raw state. The safest form is boiled or steamed. Cooking of food for horses has received at present but little attention from the farmer; prepared food by cooking must add to the expense of keeping. The cheapest plan, and with but little manual labour, is what the farmer requires. Bulbous or esculent roots, without azotised food mixed with them, is inadmissible for the farmer's horse, as will be plainly shewn on reference to page 232, Part I, Vol. IV, of the Journal of the Society.

In concluding this portion of the Essay on winter feeding, I trust I have, in some measure, pointed out the fallacy of reckless and unlimited feeding, in which I have known as much as a seam of hay, 336lbs. weight, in some stables consumed in one week by a single horse; or, in other words, one seam out of every three has been rendered unfit for food. Let order and economy be, therefore, observed in the stable, and always bear in mind the motto of this Essay, that "Order is gain: waste not, want not."

Spring, Summer, and Autumn Feeding.

The farm-horse, as soon as the clover or eaver or other grass is sufficiently forward, and the weather settled and warm, is turned out to pasture, into enclosures if they are small; if spacious, a

portion is hurdled or fenced off. By some farmers the grass is cut and carted home to the paddock or stable. This latter plan is by far the most saving. Although a little more expense is incurred in the cutting and carting, from calculations I and others have made, we have proved that one acre of cut grass or vetches will go as far in providing food, when served out in the paddock, as two acres uncut into which the horse is turned to depasture. Cutting the green crops and house-feeding is attended with the manufacture of a vast quantity of manure, which would have been comparatively lost. A single horse will in this way soil or saturate with his excretions from fifteen to twenty pounds weight of straw daily. Horses will eat more at the commencement, although the average consumption throughout the grass season will be from two cwt. to two and a half cwt. in the twenty-four hours for each horse. In heavy work or long journeys the horse fed on green meat will require a feed or two of cracked oats to maintain his condition; working hard and fed only on succulent food will soon reduce him, unless supplied with azotised matter or substances abounding with it. For lighter work green food may be sufficient. All horses, as I have before said, fed on bulbous roots in excess, or on succulent herbage alone, soonest perspire, are more liable to take cold, and their strength is not so lasting in heavy work.

There are many, no doubt, favourable to the feeding of horses on bulbous roots and succulent herbage; but it is chiefly done by dealers or those who like to see their horses plump and glossy, and fit for exhibition more than for performing work. Frequent and serious losses occur to the farmer from turning his horses into strong, juicy, luxuriant herbage. Over anxious to feed on the refreshing morsel, they glut themselves; indigestion from engorgement ensues, and one or more of them are sometimes found dead on the spot. In many cases of this kind that have come under my cognizance, I have found the stomach ruptured. Before turning horses into rich herbage they should be gradually inured to it. Turning out the farm-horse to depasture during the summer is deteriorating. As soon as the vetches or clover are ripe, the maintenance of the farm-horse for summer feeding begins—about the middle of May or the early part of June—which will most seasons last until August; tares, lucerne, or the second clover crop, are then supplied on some farms for some weeks. Some farmers turn out their horses for a few weeks before the time of stabling again arrives, to eat up the eddish, or any rough forage that the farm affords.

I will now endeavour to estimate the cost of a single horse during the five months he is in a paddock or shed fed on green meat. If he consumes, on the average, two cwt. to two and a half

cwt. per diem of vetches, or clover, or any cut fodder at 6*d.* per cwt., the cost will be for five months about £8, or £1..12*s.*..0*d.* per month. If his work on the farm should be laborious, an additional expense is incurred of giving from sixty to seventy feeds of oats, or a little more than ten bushels, which, at 2*s.*..3*d.* per bushel, will be £1..2*s.*..6*d.*, making a total cost of a little more than £9 for his keep during the summer. The value of his soiling must, of course, be taken into consideration. From the 1st of November to the end of May the winter keep will amount to about, or something more than, £12, taking the average at 9*s.* per week, or £1..16*s.*..0*d.* per month. Some have proved, and my firm belief goes with them, that for horses whose work is laborious, day after day on the farm, winter feeding during summer is the most profitable to the farmer. The annual cost of the farm-horse, for both winter and summer, may be computed at or about something more than £21. According to this estimate, to detail the exact cost* of a horse during winter and summer feeding would be impossible, since the work on farms and the quantity of food produced varies so much in different localities and districts.

Cooking Food for Horses.

Under this head is classed the boiling, steaming, or stewing the different sorts of food, more especially bulbous and esculent roots, with beans and barley: hay or straw, or grain is not well suited for steaming. The process, as the Editor of that serviceable journal, the "Farmer's Magazine," says, has the effect of charring the aliment. Mash of boiled turnips and meal is the common feed of dealers; it is usually the diet they adopt as the quickest plan of making up a horse for the market; it has also found favour in other horse establishments, by affording a quick method of serving out a large number of horses in a short time. Some consider the advantage of cooked food to be, in soon satisfying the wants of the animal from its easy mastication; but for perfect digestion, mastication, whereby a due commixture of saliva with the food takes place, is required; the reason, therefore, is obvious why indigestion, flatulence, and gripes, so often assail the horse fed on cooked meat. It ought never to be given hot, nor in a sour state; since cooked food soon runs into the acetous fermentation, and when given in this state has caused death from flatus, as I have several times seen. It is an uncontroverted fact, that horses fed on cooked food, although they acquire a fine silken coat, look well, and are full of spirit, yet soon alter in appearance when put to any active or laborious work. They

* The cost is to be taken according to the marketable value of the article.

perspire easily, lose their plumpness and rotundity, and are more disposed to pulmonary and catarrhal diseases ; witness the losses that happen to dealers yearly in their horses passing from an inactive or torpid state to one of activity. For the farmer, the best winter feeding is the food that maintains vigour, supports the animal's tonicity and endurance under work, and lessens the excitement instead of increasing the functions of the skin and the kidneys. Exposed as the horse is in his daily labour to all the vicissitudes of the weather, and to the pitiless storm, for the fulfilment of this object nothing can vie, as I have before declared, with good oats, beans, chaff, and bran. The following is a suitable form in which cooked food may be given :—

	Cwt.	Qrs.	lbs.	s.	d.
Turnips steamed	5	0	0	—	5 0
Ground barley, 2 pecks, or 25lbs.	0	0	25	—	2 6
Cut chaff, 1 bushel	0	0	10	—	1 0
	<hr/>			<hr/>	
	5	1	7	8	6 cost.

Of this mixture about 20lbs. weight is to be given once or twice a day, with two or three feeds of the horse's usual ration of oats and chaff. The greatest profit the farmer derives from cooking food is that of boiling or steaming damaged wheat or barley, neither of which ought to be given in a raw state. There is no grain or pulse from which the farmer in the feeding of horses has sustained so much loss as barley and wheat. When injudiciously given, it but too often has proved a poison to horses, cattle, and sheep. In the horse it induces stomach staggers, inflammation, and obstruction of the bowels, and frequently the death of the animal. Another very serious affection, of a character which lessens the value of the animal very sensibly, results from and is peculiar to wheat and barley ; and that is “ fever in the feet,” or “ inflamed laminæ.” I have seen as many as three horses in one farm stable labouring under this disease, the effect of giving barley, purloined from the corn house or barn by the carter. Its action in inducing fever in the feet is not correctly understood. Not being well suited for mastication in the horse, the whole grain gets into the stomach ; there the gastric juice, having no power over the husk or unbroken envelope, it acts as a foreign body. And it being now an established fact, that gastric juice ceases to be secreted in the stomach when bodies are presented to it over which it has no action, the husk thus becomes an irritating body, and Nature, to protect its injurious effect on the coats of the stomach and intestines, envelopes it in mucus, and discharges it. In very many

instances, I have seen as much as a quart voided through the action of medicine, completely covered or imbedded in mucus. Symptoms similar to rheumatism frequently occur from barley and wheat in the horse, and often end in disease of the joints. Mealed barley or wheat is likewise prone to excite similar disorders if their use be long continued. I can safely say, more farm horses are lost from bowel diseases, induced by the use of wheat and barley, than from similar affections arising from nearly all other causes. Aware of the dangerous nature of such food, I am fearful I have been induced to enter too much into the subject in this Essay; my earnest desire being to impress it on the farmer for his interest.

[To be continued.]

CASE OF IRREGULAR STRANGLES—LARGE ABSCESS PRESSING ON THE TRACHEA—DEATH.

By Mr. W. A. CARTWRIGHT, M.R.C.V.S., Whitchurch, Salop.

ON the 15th of November, 1848, I was called in to attend a three-years-old colt, the property of Mr. Thomas Whittingham, jun. of this town, with catarrh. He first of all had sore throat and cough; soon after, great discharge from the nostrils. By administering a little medicine, and by dieting and care, he got apparently well, and all coughing ceased.

On the 5th December he was lent out to a surgeon to go a short journey, who, when he brought him home, said he was rather thick winded, though he had not taken him off a walk.

8th.—The owner this day made a chop for another horse, since his own seemed very well; but which he was to keep for the other person for a short time.

9th.—This morning I was ordered to look at him. He is a little heavy about the head, and dull. Makes a noise during respiration, and I fancied sore throat appeared again taking place. I could not detect any disease of the lungs. The pulse was about natural. Gave a small dose of ant. potas. tart., aloes Barb., hyd. chlor. and blistered his throat and neck, down to his breast, which took good effect.

10th.—On my first going to him this morning his breathing appeared a little increased; but after being with him for a short time he became excited, and his respiration very laborious, as bad, indeed, as the worst broken winded horse I ever saw. On leaving him alone for awhile it would subside to its former frequency. Does

not cough. Is warm and comfortable, and eats some hay. Has not been lying down lately. Gave a dose of potas. iodid., hyd. chlor. and ant. potas. tart. twice in the day. At night he was about the same, if excited.

11th.—9 A.M. Respiration more quickened. Something like a bad thick-winded horse. Not like pneumonia or broken wind. I even now fancied there was only some abscess pressing about the windpipe or about the larynx, and that when it burst all would be right again. Its exact site I could not assign; it seemed as if it was towards the larynx or nostrils. I gave him 3ss of potas. iodid. in some water, which he drank freely, and I then left him, little thinking of hearing of his death so soon: indeed I did not the least suspect it.

10 A.M. The groom was in the stable at this time. He informed me that the horse seemed uneasy, and began to cough, and that his breathing became much laboured, and he bit at the manger and rack, and soon after fell down, and instantly died.

Post-Mortem Examination. Before commencing skinning him, I ordered the butcher to stick him, although he had been dead an hour or two; when he accordingly plunged his knife between the ribs, and the left shoulder, whence issued out blood and pus. After clearing the integuments from the trachea and about the breast, I came to the seat of the abscess, which was about the size of a large fist, situate near the first rib upon the right side, and completely pressing upon the trachea, which was flattened considerably by it, for at least six inches in length; so that there was no doubt but that, when he was alive, the abscess must have obstructed respiration most materially. The larynx was highly inflamed. All other parts healthy. Saw no other abscess in any other part of the body.

Observations.—I think there cannot be a doubt but that the abscess was the cause of death, as his respiration had been impeded for several days, since he has been heard to make a roaring noise, which I fancied proceeded from the vicinity of the larynx or nostrils, since the latter were observed much dilated when he was spasmodically excited. The immediate cause of death, I am inclined to think, arose from a fit of coughing. This abruptly terminated his existence, and much sooner than I expected.

I have met with several cases of irregular strangles, where abscesses of an immense size have gradually formed between the shoulder and the body, from which eight or ten quarts of pus have issued on opening them, and the colts, the subjects of them, have done well.

ENORMOUS ENLARGEMENT OF, WITH HYDATIDS IN, THE LIVER OF A SOW, AND SUPPOSED PREGNANCY THEREFROM.

By the same.

ON the 15th December 1848, a person of the name of Williams, from Farndon, Cheshire, sold a sow, two or three years old, to a person of the name of Batho, of the Woodhouses, near this town; who sold her in the same day to Mr. Blake, of the same place. It was said at this time that she would pig in the course of three weeks.

On the 19th February 1849, Mr. Blake sold her to Mr. Maddocks, of Bronington, Flintshire: she was represented at this time as in pig, and sound, although very thin. Mr. M. kept her for several days, and then returned her, finding she could scarcely get up when down, and believing her unsound, and that she never would pig. Mr. Blake refusing to take her back, an action was brought in the county court to recover the amount; and on the 6th of March it was tried, when judgment was given for the defendant, as it was supposed she might have been injured across the loins, in getting her out of the cart in conveying her either one way or the other. Positive evidence was given that she was in pig: some had even seen the pigs jump. On the 7th March, Mr. Maddocks' nephew, of the lodge, near here, fetched her from Blake's, and on the night of the 9th she died. On the 10th I opened her.

Examination.—There issued from the posterior part of the abdomen several quarts of serum, and in it there lay an immense tumour, occupying three parts of that cavity: it lay principally on the right side, and protruded very much into the thorax. I had it removed, and found that it was an enlarged diseased liver. It weighed the enormous weight of fifty pounds. The surface of it was studded all over with tumours of various size, and on cutting into the mass it was found to consist of an innumerable number of hydatids. Nearly the whole of the substance of the liver was absorbed, the gland now being scarcely any thing more than a mass of hydatids.

FALSE PRESENTATION IN A MARE FROM A BAND IN THE UTERUS, AND RUPTURE OF THE MESO-RECTUM.

By the same.

EARLY on Friday morning, the 27th April, 1849, a half-bred mare, the property of * * * was found foaling at her proper time. The head and one fore leg only presented. She was straining violently, and had forced down nearly half a yard of the rectum. Parties ran about for an hour and a half for a person to assist her; at length one was found, who first attempted to reduce the protruded gut, but could not.

He then examined the situation of the foal, when he found one of the fore legs projecting over its neck, and forcing against the mare's rectum. By pushing the foal back he got this leg into its proper situation, when she brought forth a small foal with little difficulty, and the placenta followed immediately. The rectum was then forced back.

For five or six hours after she seemed as well as could be expected, licked the dead foal, and ate a mash and some hay; but from this time she gradually grew worse, appearing in a deal of pain. The owner did not come home until six or eight at night. He did little to her the whole of the night, thinking she would get better; although all this time she was very restless, getting up and lying down, and rolling about most of the night.

28th.—Six A.M., I saw her for the first time: she was then lying at full length in the stable, sweating much, and struggling: soon after she got up. After giving her a short time to compose herself, I examined her pulse, and found that it was very irregular and intermittent, beating sometimes two or three beats hurriedly, and then stopping for a time; at other intervals it would beat five or six times together, and then intermit. She was not at all swollen in the abdomen, nor did she strain at all, nor were the parts about the vagina or anus swollen more than one would expect them to be so shortly after foaling.

Treatment.—I did not think it prudent to bleed, but gave an anodyne combined with an aperient. I continued with her nearly the whole of the day. Her symptoms during the time were those of irritation in the bowels or uterus: I thought not exactly those of enteritis, she being restless, looking at her sides now and then, up and down, and occasionally attempting to roll over.

Six, P.M.—No dung of any amount has passed. Introduced

my hand into the rectum, and removed some fæces, during which time she strained violently to force the gut down, though she never strained but when I tried to remove some fæces. Soon after I gave another anodyne and aperient, which done she appeared more composed, became cooler, had a better pulse, and looked comfortable in appearance and left off sweating. I left her for the night, expecting to find her better in the morning.

29th.—*Ten*, A.M. Has been very restless at times in the night, and about 3 A.M. the owner thought she was dying, and in consequence took about three quarts of blood from her. She is now evidently getting worse: pulse smaller, and beats a great many times together, then intermits: makes attempts to lie down, but fears to do so, since she evidently cannot bear the fall.

Taking all the symptoms together, I did not consider it a case of enteritis, and therefore declined to bleed again, since I thought it would only hasten her death. Bowels not moved to any effect: raked, and removed a good deal of tolerably moist fæces, she straining violently while doing so. Gave aperients and anodynes, and stimulated the abdomen. She, however, gradually got worse and worse, and died about 7 P.M.

Post-mortem Examination.—On laying open the abdomen there issued a good deal of bloody serum, and on removing the intestines I soon discovered the cause of the ailment; for, on taking out the rectum, I found that its mesentery was torn from it for at least half a yard in extent. I next laid open the vagina and uterus. They were much about in that state in which they would appear at such a period after parturition. In the former I found a strong band, the thickness of one's little finger, and about a foot long, stretching across, at about six inches from the os uteri, from one side to the other.

Observations.—I have no doubt that, at the time of parturition, the fore leg of the foal which was not presented, was retained by the band that was stretched across the uterus, thus preventing her foaling, and causing the excessive straining, and giving rise to rupture of the mesentery, protrusion of the rectum, and, ultimately, to the death of the mare. This, I believe, was her first foal.

I never met with a similar case in the mare, though I have found bands in the uteri of different other animals, whose cases I have recorded in *THE VETERINARIAN*.

UNQUALIFIED VETERINARY PRACTITIONERS.

To the Editor of "The Veterinarian."

Dear Sir,—THE injury sustained from unqualified practitioners in veterinary medicine has frequently been adverted to in the columns of THE VETERINARIAN; but the means of remedying the evil are, unfortunately, not very apparent.

THE VETERINARIAN being principally to be found in the hands of the profession only, the remarks made in it do not reach the eyes of the parties most interested, viz., the owners of animals in need of medical or surgical assistance.

These remarks have been made in consequence of one of my patrons having published a letter in *The Doncaster Gazette*, a copy of which I forward you. I would recommend the members of the profession to obtain the publication, in the local newspapers, of all cases of maltreatment by unqualified practitioners. This, I think, would have a tendency to discourage empiricism and quackery, to the saving of many valuable animals, and to obtain for the duly qualified veterinary surgeon that degree of public estimation and support which he has justly merited by his talents, study, or experience.

I remain, Sir, yours respectfully,

ROBERT NICHOLSON, M.R.C.V.S.

Womersley, near Pontefract, May 14, 1849.

TO THE EDITOR OF THE DONCASTER GAZETTE.

Sir,—As it is good at all times, for the protection of the public, to expose imposition and reward merit, and knowing no better medium of doing so than through your influential journal, I beg to submit the following flagrant case to your notice, where the incapacity of a pseudo-veterinarian nearly cost me the life of a very valuable mare.

Within the last month this mare was suddenly taken ill, and by her repeated violent struggles seriously injured herself in other respects. I immediately sent for Mr. Nicholson, veterinary surgeon, Womersley, near Pontefract, who unfortunately had just gone to examine a horse fifty miles from home. I then sent for another so-called veterinary surgeon, who, with a seeming decided knowledge of the case, immediately pronounced it hopeless, saying that she had got the "mad staggers," and recommending the "knacker" to be sent for instant, to put the poor beast out of its

misery: he then rode away. The knacker was accordingly sent for, and soon arrived, knife in hand; but after a short consultation we thought it was a pity to destroy so valuable an animal without some further effort, and therefore decided to await the arrival of Mr. Nicholson, come when he might. Mr. N. at length arrived, late at night, and, saying she had "phrenitis," expressed strong hopes of her recovery under his treatment. In a short time he eased her of her struggles; and now, I am happy to say, the mare is quite convalescent, and performing her daily work.

My desire in bringing this before the public is to put people upon their guard who may have similar cases, and not trust to these empirics and their quackery, but obtain proper advice.

With respect, Sir, I am yours truly,

THOS. WOOD,

Knottingley, May 8, 1849.

Farmer and Lime-burner.

HORSE BREEDING IN FRANCE.

By J. T. HODGSON, V.S.

Late of the East India Company's Stud Department.

To the Editor of "The Veterinarian."

Sir,—THE case I am about to bring before you, contained in the following statement, is a libel on the character of the English thorough-bred horse:—

"*The Breed of Horses in France.*—At the last sitting of the Academy of Sciences, M. Duvernoy read, in the name of a committee of which he is a member, a report on a paper by M. Richard, Director of the Ecole des Haras. M. Richard states that horses artificially bred and trained for racing are of too delicate a nature to be useful for military purposes; that the mixture of the English race-horse with the French breed rather deteriorates than improves the latter; that the only race of horses in France which have prospered or have not been deteriorated, are those used in agriculture, and bred by agriculturists; that the Arabian horse, well chosen, is the only foreign race proper to revive the breed of light horses in France, such as were used before 1790, by crossing them with the breeds of Auvergne, Limousin, and the Pyrenées. The reporter agrees with M. Richard as to the unfavourable results of mixing the English pure blood horse with the French race, and thinks his

opinion in favour of the admixture of Arab blood very rational. The report, which has been adopted by the Academy, concludes by recommending that the thanks of that body should be given to M. Richard for his communication."—*Weekly Dispatch*, 29th April, 1829.

In becoming the voluntary advocate in defence of a noble animal our professional avocations so often bring us in contact with, I have no object but the denial of this aspersion; and I shall be happy to see the subject in abler hands in that periodical more immediately concerned in these matters. I claim the indulgence of your readers, who, I am sure, are better able than the Academy of Sciences to decide on the merits of the English thorough-bred horse.

"The impracticability of reducing this science to any definite rule or law has placed it among that species of knowledge which a man gains by dint of observation alone; hence it is that the best practical judges of shape and make are to be sought after rather among horse dealers and persons connected with the turf than among those who pretend to make a science of it; for the one will at a single glance point out a well-shaped horse, while the inexperienced other will not, with all his proportions at his fingers' ends, be able to judge half so correctly or half so speedily."

Now, the savants of the Academy of Sciences are not of the above description of persons, and are *à fortiori* incompetent judges; yet they do not scruple to adopt a report founded only on the opinion of M. Richard.

"Proportion and position are, however, far from being the only considerations with one who is about to estimate the capabilities of an animal body; we must look to material or texture, to organization and to nervous influence; which relations seem comprehended, in the vulgar sense, under the head of breed or race. For instance, when we say that horses require to be well bred in order to combine speed and bottom with strength, we mean that the texture of their bodies should be of a finer and superior description to that of others; that their organization should be correspondently better wrought; and that their nervous or vital influence should be of a higher caste. These constitute the corporeal differences between the race-horse and the cart-horse, between an animal of breeding and no breeding. It is a curious but well-ascertained fact, that portions taken from any correspondent bones in the bodies of these respective animals are, with all their difference in magnitude, of nearly equivalent weights, proving that one contains as much material as the other; the difference being, that in the one it is more closely and better wrought together, consequently better adapted to quick motion, while it still possesses un-

rivalled strength and resistance: so it is with muscle; so with every other structure."

"The organization of such an animal, the system whereby every part is furnished with nutriment, is of a correspondently more perfect description, and the nervous texture, that which vitalizes every part and infuses the spirit of exertion into it, is such as to endue it with more life and spirit of a super-excellent kind."

M. Duvernoy, here I give you two graphical and physiological quotations from Mr. Percivall's paper in *THE VETERINARIAN*, "On the Conformation of the Horse." They contain the elements of horse breeding, such as the Academy of Sciences can comprehend, and will save much periphrasis in replying to your report and M. Richard's paper.

The next thing I have to address you about is the origin of caste*. What caste is an English thorough-bred horse? I will answer you. The same as an Arabian!!!

"Tazee literally signifies Arabian, and it is probable that in Persia and Syria it is only applied to horses believed to have some mixture, more or less, of the Arabian breed."

"In India there are Arabian and Toorkoman horses, and the Moojenniss, applied to the best of the breed, means the immediate offspring of the Toorkoman and Tazee."

"Toorkoman is doubtless intended to express a breed of horses totally distinct from any other of the species," "deriving its name from Toorkistan, one of the six divisions of South Tartary north-east of the Caspian Sea, famed in ancient history for having produced a pure breed of horses."—*Treatise on the Horses of India*, by J. P. Pigott, Lieut. of Cavalry.

When you have read this, M. Duvernoy, it will occur to your recollection that the Toorkomans overran the Saracen empire, and that the Arab horse of that age became in many cases a Moorjenniss, and has remained more or less so since.

* "Too much stress cannot be laid on caste, nor on the necessity of a discriminating acquaintance with horses well bred and of no caste." "Those who have acquired information on the subject, or whose fondness for horses has drawn their attention particularly to their qualities, know that caste is an indispensable property in a valuable horse. The most generous dispositions ever attend the highest caste of Toorkeys, and every branch of them, with the Tartar horse, are particularly valuable for their tempers. In opposition to this, the organs of sensation in the jungle Tazee are often so exquisitely delicate, that the smallest abuse of them renders the latter fretful and impatient."—*Pigott*.

The Arabian, on account of his caste and temperament, is the favourite with both ladies and gentlemen in India.

There is caste even in a Tattoo. "Many instances have proved that a good selection from this class has, in a contention for speed, outstripped every other horse."—*Pigott*, and the experience of sportsmen in India.

If you refer to the English stud books, the English thoroughbred horse is also a Moorjenniss. There cannot, therefore, be any difference which horse is used as a stallion, as far as regards caste. As to being "artificially bred and trained for racing," so far from rendering the English thoroughbred horse "of too delicate a nature to be useful* for military purposes," the Academy of Sciences must acknowledge that this position of M. Richard's is physiologically untrue. It is equally impossible that a high caste horse can deteriorate the French breed, of no breeding at all, as the produce would, of necessity, be of higher caste; and I shall prove that high caste† horses have by all nations been preferred for military

* We have a recent instance where the mixture of the English race-horse with other breeds were under their riders fifteen hours in pursuit of the Sikhs; a sort of delicacy that would just suit the stomachs of French dragoons; in short, if they had it, the crown of Charlemagne might not be going a begging.

† This is only comparative. France does not require the military system of horse breeding for predatory warfare.

"*Cozak Tartar*.—No horse exceeds him in labour and perseverance under fatigue.

"*Mahratta Tazee* implies no separate or peculiar breed, but leads to the opinion of a good horse, from a capacity to endure and even thrive under the most unexampled hardships and uncommon exertions." *The Pony*.—"The Gowt or Hill Toorkys are not to be surpassed by any in labour and hardiness. They preserve spirit under fatigue or endurance of scanty provisions. *The Tanghean*, equally well known, under the most arduous labours." "*Tattoo Pony*.—The general and most laborious uses to which these are applied evince their utility, insomuch that through the most arduous campaigns in India, the necessities of the soldiers, followers, and even their families, are conveyed principally by their means: the patient endurance with which they perform their tasks, through almost incredible hardships and under very heavy burdens, excite in the beholders no less admiration than compassion; in return, they receive usually but liberty to pick a scanty subsistence on an almost barren plain: yet they rarely fail in these exactions; and while with assiduity a horse of a high price and estimation can with difficulty be supported through the fatigues of a campaign, the Tattoo thrives under a scarcity approaching to famine."—*Pigott*.

"*Irakee*.—The Toorkey of Babylonian and Persian Irak is produced from a Toorkoman engrafted on a Persian; the favourite of native princes and men of power in India. By the symmetry and gracefulness of his form, docility of temper, and justness of action, he produces in his natural movements an effect surpassing what the labour of art can exhibit in horses of an inferior breed; but when skilfully managed, the grandeur and stateliness of his carriage equal what the warmest imagination can conceive of that animal: his spirits rising as his exertions are required, he exhibits to his beholders an appearance of fury in the performance of his task, yet preserving to his rider the utmost flexibility of temper."

"*Iranee*.—The Iran Toorkey, a horse bred in Persia, inferior to the Irakee. The Candahar Toorkey, bred to Candahar, is inferior to the Iranee."

Cozakee, a horse bred in Usbek Tartary, bearing a great resemblance to the Toorkoman, and is often received as of that caste.

purposes. The principal cause of the change in organization, that produced by intercopulation, is immediate and discernible. The secondary cause of climate, soil, modes of feeding and training, is not so perceptible, as its effect on the organization is very slow, often interrupted, sometimes ceases, without affecting the health; at other times producing in the animals disease. The English race-horse is bred and trained to bring forth the full extent of his powers, quick growth, size, substance, condition, health. Is this incompetency for military purposes? Certainly not. The converse of this is oftener found in the Arabian, quicker growth, loss of size and substance, and delicacy of health from poorness of condition, and high caste alone enables him to support the fatigue he is frequently obliged to undergo.

“Arabian Horses.—The foal, although but a day old, followed the dam the whole way, without the least* suffering. It is not surprising that the Arab horses are so hardy, when from the day of their birth they commence the most arduous journeys. This little

It is certain that large studs of Arabian horses are kept in Persia by means of wealth and power, and that the Persian horses are greatly indebted to Arabs for their high qualities. “Tazee is applied, by breeders and merchants, to express a horse of the highest extraction, lively, active, vigorous, and with great speed and fire, in opposition to qualities found in the Toorkey. The Iran Tazee is commonly described under the term Iran only.”

“At the time of the descent of Timur Shah into Hindostan, a considerable number of Persian or Iran horses. it is recorded, were brought to the Punjab, and secreted there, from which the present breed, distinguished by the term Jungle Tazee, is said to be descended; the dry soil and climate of the Punjab being particularly favourable to the breeding of horses, the propagation of them became an object of emulation and profit.”

“Before the invasion of Nadir Shah, the Punjab, it is credibly asserted, was famed for the production of a fine breed of horses, which circumstance at least confirms the general opinion, that the horses now produced there partake of the Persian breed: and a strong contrast in their tempers, supported by many other discriminating marks, will illustrate the opinion, founded on the full investigation of the subject, that the Tazee is of a distinct breed from the genuine Toorkoman, whose origin is beyond the reach of inquiry.”

“Cuteh Tazee.—This breed is said to have been crossed by Arabs, and the accident to which the improvement of this branch of Tazees is indebted is accounted for thus, *vide* Ayeen Akbarree, vol. i, page 167:—An Arabian merchant had six choice Arab horses on board his ship, which was cast away in the Gulf of Sind, from which horses the breed is supposed to have sprung.”

“The Kottiwari Tazee, a horse produced near Guzerat. Doman Tazee, brought from the hills bordering on Candhar, &c.”—*Pigott.*

Hungary is remarkable for a fine breed of horses, highly esteemed by military officers.

The little Neapolitan blood horses only returned with the Emperor Napoleon from Moscow. Many other proofs might be brought forward that high caste horses have always been preferred for military services.

* Query, apparent?

creature must have accomplished thirty-five miles, at the least, over a very rocky road. The instant it was born, a charm was tied round its neck in a bag of black cloth; sometimes in this sort of manner is placed the pedigree, a matter of greater consequence to an Arab, I fancy, than even the amulet. The best horses are bred in this desert by the Anazie Arabs, in whose territory, before the conquest of the Wahabees, the district of Nejid was included, where the richest pasture of Arabia is found. That name, in India, used to procure a high price at all times for a horse. I am amused at the recollection of the sudden change in the habits of the Arab horses when they come into the possession of English masters, by whom they are pampered and petted. They rarely, I think, arrive in the East before they are six years old, and fall suddenly into a life the most opposite to that they lead in their own wide plains, where they are seldom fed on corn, and travel fifty or sixty miles a day without a drop of water."—*Skinner's Travels, Captain 31st Regiment.*

As anatomists, we know the foal was intended to follow its dam from birth, but not in this manner, the effect of which training is manifested in the appearance of the animal in after life, i. e., he is of "too delicate a nature to be useful for (all) military purposes," and from want of size and substance least useful to immediately beget horses adapted to carry heavy dragoons, or for horse artillery, although, from necessity, obliged to be used for both in India. But as an improving cross, that is, to convey the requisites of caste, delicacy of fibre, organization, temperament, their utility as stallions is undeniable, and they are used at the government studs. Had the Arabian, however, been sufficient, Mr. Moorcroft, the superintendent of the stud, would not have gone to Bokhara after Toorkoman stallions, by which he sacrificed his own life and that of his equally unfortunate companion, Mr. Trebeck.

Captain Skinner would not have seen the government he went to serve, with a large establishment of officers taken from their regiments, employed exclusively in the stud department, superintending not only the breeding but the rearing of the colts from yearlings to give size and substance, by obviating the Asiatic mode of feeding and training, and yet failing, after all this, to remount their cavalry, and subsequently obliged to send lac after lac of rupees to Van Dieman's Land and the Cape of Good Hope for horses, at great financial loss.

The reproduction of horses neither depends on the English thorough-bred, the Arabian, Toorkomanee, or any other stallions, nor on the mode in which the produce are bred and trained, but on the policy of the governments and the manners and customs of the people of respective countries; it is, consequently, continually liable to interruption and mutation.

I was as sanguine as others, and lost my health on this subject; but, having gone to the north of Germany for recovery, I saw cavalry horses produced with little trouble and cost, and French officers came there to purchase the produce of English thoroughbred and blood horses. They come also to England for the same purpose. How is it, M. Richard, that these are not of "too delicate a nature"? How is it your officers come to the very fountain-head of this? There is something inconsistent in this. They must see the manners and customs of the people enable them to supply horses in both countries. In the former country, by agricultural, commercial, and domestic use, without reference to the army. In the latter, by the generous patronage of the turf, and sporting, agricultural, commercial, and domestic use. Our annals of sporting are full of anecdotes characteristic of this. The scenes of the roads are full of characteristic humour of it. A prince visits a baron, and he is surrounded by the baron's tenantry mounted on their beautiful blood hunters. The feudal tenure and service no longer exists, except yeomanry cavalry; but these animals of "too delicate a nature" would soon be army horses if needed. Unlimited free trade might oblige the racers and hunters to be sold; the government would then have to remount cavalry how they could, and at whatever cost.

The horse has always been instrumental in the rise and fall of empires. M. Richard cannot go back to 1790. The policy of his government is, at present, adverse to this. The people that existed previously to that period are gone, those at present in these departments most likely differ in their manners and customs from those of 1790, and their horses are not of the same variety now as then. M. Richard, there has been a revolution, an empire, the cozakee horses twice in Paris, monarchy, revolution and the cozakee is coming again to the south—three times in half a century: it is his occupation. They breed horses purposely. The British government in the East has just struck the last blow at the Seiks, (the cozakee) or military system of horse breeding there. On annexation, the native Princes cease to breed horses, no longer having the motive to do so. The Punjab, always celebrated for its breed of horses, will no longer be so. The Lackhi jungle on this side the Sutledge, once well known as a breeding country for horses, has produced few in the last thirty years, since these Siek chiefs came under the protection of our government; but we have studs in the province.

The exclusive use of oxen in agriculture and on the roads, besides camels in India; the extensive use of oxen and mules in Portugal, Spain, and parts of France, prevent also the reproduction of horses, which are not, therefore, so much in domestic use, unless there is a powerful motive, as, for instance, the possession

of land*, a people will not be induced to breed horses to defend it, much less to help to sabre their neighbours, and thus those "used in agriculture, and bred by agriculturists" in France have not deteriorated. M. Richard you are, though not intentionally, leading your government, through the Academy of Science, to believe that by Arab stallions you will remount their cavalry: no such event can ever happen by this alone. After a series of years your government will be just in the same position, as regards its remount of cavalry, as now.

That M. Richard is entitled to the thanks of that body I make no doubt, and that M. Duvernoy, and other gentlemen, members of the committee, are actuated by patriotism; but in following this up, it is unnecessary to cast an undeserved stigma on the thorough-bred English race horse, because a difference of manners, customs, taste, and amusements in which the horse is concerned does not admit of our feeling alike on these subjects.

I have never had the pleasure of travelling in France. I have seen, but cannot recollect French army horses of 1808 in Portugal.

As I have not M. Richard's paper, I am not aware upon what practical experience he has come to the conclusion stated, in regard to the superiority of Arabians to English horses as stallions for the improvement of the breed of horses in France; nevertheless, I think there must be something erroneous giving rise to this opinion: for to whatever country English thorough-bred horses have been sent for this purpose, they have invariably been found, by practical experience, to have supported their claim to superiority over Arabians as stallions: and, no doubt, it would have been the same in France, but for something wrong in the practice. I can only suppose what this may have been; for instance, when stallions have been sent to India, America, Russia, or Germany, they have, in general, been thorough-bred, well chosen, by English agents; these consequently caused no disappointment; but, for France, thorough-bred, and blood horses not thorough-bred, have been purchased by French agents, and these having been used as stallions, these, and these only, have failed in breeding studs, and M. Richards has thus not given the thorough-bred English horse a true character. The Arabian horses used in France may have been presents to the French government from Arab chiefs, and were most likely of high caste, at least of higher caste than the English blood horses, not thorough-bred used as stallions, and thus has happened the apparent superiority in the breeding studs of France.

Besides, there is another thing: individuality is to be considered.

* The Ukraine was bestowed on the Cozaks, and see the consequences of this military system of horse breeding in the history of Poland, 1654.

Also the Mamalukes, the Mahrattas, Pindaries Sieks.

“ It would appear evident enough that one scale will not serve for two animals, though of the same species, so dissimilar to each other ; at least, we ought to be furnished with one scale of proportions for the race horse and one for the cart horse. There can be no doubt that one definite length and breadth and volume is required for every individual member, and that no deviation from this can take place without disparagement and consequent impairment to the whole ; but, then, so much depends upon a variety of concomitant and dependent circumstances, such as the adaptation and proportion of other parts, and the internal texture, organization, and susceptibility of the whole, that it seems very unnatural, and is perhaps impossible, to lay down any precise and immediate laws. In confirmation of this, how often does it happen that we are astonished at the excellent performances of some misshapen horse, and equally surprised and disappointed at the inability of another whose pretensions, according to the laws of beauty and proportion, are of the very first order.”—*Percivall*.

Knowledge of individuality constitutes the practice of horse breeding, as you say M. Richard “ the Arab well chosen.” Why not the English pure blood horse also well chosen ? Choosing stallions for breeding racers and chargers, for agricultural or other domestic uses, is very different. Racing depends upon blood, and horses that have been brought into fashion by shewing forth individuality on the turf are chosen as stallions. It sometimes disappears for a time in studs, and again reappears, without reference to that part of individuality shewn in shape and make, i. e. as turfmen express themselves, “ horses run in all forms.” Yet there are forms to which from experience they give preference, being more useful as racers by form alone, and which, when combined with reappearance of blood, is sure to win. It is the flat form*, length and depth, length of the muscles concerned in extension, or stride in action.

The opposite shape and make, the contour form, the high actioned horse, may race by repetition of action supported by blood alone, i. e. “ life and spirit of a super-excellent kind.”

These different forms occur in all varieties of the horse, the former, when accompanied with low forehead, is ill adapted ; the latter, with high forehead, is better adapted in a stallion to beget

* Flat or prominent in the contour (this is rather difficult to describe, although it could be easily shewn in the living subject or in drawings ; and I shall feel happy to enter into further explanation with M. Richard) ; but for the scientific causes of this, and other matters regarding the breeding of horses or other animals, I must refer to Mr. Percivall's Lectures on the Veterinary Art, vol. i, pages 136 to 140—*144, very apparent in high caste ; 220 to 223 236, 237—265, 266—268—284—287, 288—309, 310—312 to 315—332—334.

horses for military use. The former have narrow chests and loins, and are "delicate" from this cause, not from being "artificially bred and trained to race."

The latter have broad chests and loins, better constitutions, easier put up flesh, and retain condition longer under the fatigue of military service, i. e.* It is breeding for different purposes. Here M. Richard is the practical cause of the unfavourable results in France by breeding from English stallions of the flat forms; whereas, the Arabs chosen (originally for the native chiefs of the contour forms, which is kept up by obesity, and on account of the manage) have produced the contour form suitable to the purpose for which only the French government required them, army use only; and this has given rise to your opinion in favour of the Arab. Now in India, although there are stakes for all horses, yet English and Arabian imported horses, and the produce of these or country breds, run together in separate stakes, each variety weighted according to their capability of carrying it. The Arab, or produce of Arabs, carry light Asiatics lightly accoutred, but are ill adapted to carry European dragoons, though necessity may oblige their use.

Besides the present people of Auvergne, the Limousin and Pyrenees will breed only that kind of horses they like. You are, M. Richard, like the French Maitre d'Hotel described by Sir W. Scott: the chateau remained; the establishment that existed before 1790 could only be revived by carving the horses, &c. out of toast to decorate a dish of spinach.

But the committee of which M. Duverney was the organ have no excuse; they are *savans* well acquainted with ancient and modern history, and the share horses had in it.

We are informed, horses have been bred wild, subjected by man, used by him to overrun Asia, part of Africa, Europe, protected by landed tenure, cherished by emperors, kings, princes, nobles, knights, down to the meanest vassal; at one time in-

* Horses for particular purposes have in England always had characteristic forms and names. The blood breed, going the pace, influenced every thing with which they were connected, and there was a reaction to breed more blood horses, adapted to the changes in the sports, the improvement of commercial intercourse they had in great measure caused. It has now become a question what effect the steamers and locomotives will have upon the breeding of horses; at present it is supposed the direction of their uses only is diverted: the ultimate effect, however, can scarcely be doubted. The principle embodied in the expression used to the French minister Colbert, "*laissez faire et laissez passer*," however applicable it may be to free trade in inorganic articles of commerce, does not apply to living animals; for their well-being depends upon protection, even before they are gotten, in that of the sire and dam. It probably never entered the head of a Frenchman to estimate the cost of breeding horses in England, saying nothing about a colt or filly for the Derby or Oaks, or any other race.

strumental in the rise of empire, another time assisting in dismemberment. This, the military system of horse breeding, is very dangerous to government: it is always troublesome*. You should have considered the spirit of the age, the present condition of France, and that not only of the near, but distant nations. The alliances that have formerly brought the Scythian horses into Europe, are now bringing their horses again. The defence of your country by cavalry is left to the commander-in-chief; the horses he requires must be supplied, and it can only now be done by the agricultural, commercial, and domestic system of horse breeding, i. e. by the encouragement of the use of horses, to the exclusion of that of oxen and mules; this may be difficult, but the experience of England and Germany, and some of your own provinces, shews that it is not impracticable. But, leave the English race horse alone: notwithstanding the tuition you have had, you know nothing about his capabilities; the gentleman sportsman will allow what has passed with a smile; others when they hear it will most likely notice it in language not fit for ears polite, like those of the Academy of Sciences. Nimrod might treat you classically as well as sportsman-like; at all events, I trust I have, with the help of the talent and experience of others on this subject, reversed the decision of the Academy of Sciences, and shewn, that the English horse, "well chosen," is proper to revive the breed of light horses in France.

[The Editor may extract a few passages from his Journal; I have gone into the subject in case his French collaborateur might wish for more].

OPEN KNEE-JOINT SUCCESSFULLY TREATED WITH COLLODION.

By "A MEDICAL STUDENT."

To the Editor of "The Veterinarian."

Sir,—I SEND you a case of open knee-joint, treated successfully by the application of collodion. If you think it worthy of insertion in your valuable periodical it is entirely at your disposal.

The wound in the above case was in itself of a very formidable character. The opening into the joint was between the two rows of carpal bones, and the injury done to the capsular ligament was extensive. And, what added more than any thing to the severity of the case, was the treatment the horse experienced immediately after the accident. The person who drove him at the time of the

* Mogul Empire, History of.

accident, not understanding the nature of the injury, sent him home, a distance of thirty miles, over uneven and stony ground. He was two days on the road. When he arrived at home, it was lamentable to behold the poor animal. From the synovial membrane being so long exposed, great inflammation had taken place in the joint, and the symptomatic fever dependent on this also was very alarming. However, the horse being a great favourite, my father was determined to give him a chance. Accordingly, he was put in slings, and the usual treatment employed, such as is generally thought adapted to those cases, but without any good effect. At length, I being a student in the medical profession, and knowing the adhesive properties of collodion, from having seen it applied upon the human body, the idea struck me, that it might prove of service in this case, in shielding the wound from the air, and preventing the discharge of synovia.

Accordingly, I advised my father to let me try it. We began by applying it several times in the course of the day for two days, at the end of which we had the great satisfaction of seeing the discharge of the synovial fluid completely arrested. The external wound was then treated in the usual manner, and at this time the cicatrix left is not larger than a shilling; and, what is more satisfactory, there is not any ankylosis of the joint. He has been blistered over the knee, and is at present in a small field, and is fast regaining his former strength.

THE ACTUAL CAUTERY IN PLEURO-PNEUMONIA.

By JNO. MACLEAN, Veterinary Surgeon.

To the Editor of "The Veterinarian."

Sir,—SEEING in a late number of your periodical the relation of a case of pleuro-pneumonia successfully treated by the application of the actual cautery, and, in the number following, some theoretical comments by an anonymous correspondent, in which the writer would make it plainly appear, that the firing irons could have little more beneficial effect than any other of the counter-irritants we possess, I determined to put it to the test of actual experiment, and a fitting case was not long in presenting itself to my notice. The patient was a beautiful Ayrshire cow, six years old, and in good condition, the property of a dairyman in this town. She had been seized three days prior to my being called in. At the onset of the epidemic, which the owner, from his previous experience, readily detected, she was bled until she staggered, and a powerful purgative administered. As the dis-

ease seems to be still running on unchecked, as might be readily learned from her dull heavy look, heaving flank, and accelerated pulse, and more especially by the dull heavy sound elicited on auscultation and percussion, I proposed, as a dernier resort, to apply the firing-irons most effectually, which the owner readily agreed to, as he had given up all hope of the animal's recovery. I operated in the fore part of the day, when the animal struggled violently. The same evening she ate up a bucketful of soft meal that was placed before her, and looked round at her owner for more; a thing she had not done since she became affected: in fact, all desire for food had left her; a symptom of more evil portent to those who have had the disease among their cattle than any other. She continued to feed and improve in her milk until she completely recovered; and in the space of fourteen days it would have taken a good judge to say that she had been nearly "dead with the trouble."

Now, Mr. Editor, I do not expect that every case I may meet with, or those may who practise the operation, will terminate so satisfactorily, since there are many contingencies which may invalidate our best efforts; such as, condition, age, and previous treatment of the animal; but if we succeed in bringing one out of every three successfully through, then may I say, without being charged for inflicting unnecessary cruelty upon the animal, that we are warranted in employing such strong measures when all other means have failed. One case to the point is worth a thousand theories upon such a subject, more especially when the theorizer has not thought proper to endorse them with his name and address; and I am of opinion that a little more time should have been given Mr. Nicholson's suggestion to discover whether the practice could be warranted by the further experience of the profession.

Home Extracts.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

AT the monthly council held at the Society's house, Hanover Square, on Tuesday, the 5th of June, Mr. Raymond Baker, chairman of the Veterinary Committee, presented the following report of the Committee, which was adopted by the Council:—

"The Veterinary Committee have had under their consideration the suggestion of the Hon. R. H. Clive, referred to them by the Council, at their last monthly meeting, viz.

" 'That a first-rate veterinary surgeon should be sent, on the part of the Society, into districts of the country where disease of

any kind prevailed extensively among the live stock of farmers, with an instruction to such veterinary surgeon that he should report to the Council the result of his personal examination into the circumstances of such disease, and into the local cause of its recurrence or aggravation, as well as the measures he would recommend for arresting its progress, and preventing its further outbreak in other districts.

“The Committee have agreed to recommend to the Council the adoption of this measure, so far that a sum not exceeding £200 be placed at the disposal of the Committee, who shall carry out the proposed plan, after reporting at a future meeting the detail of their further proceedings for the confirmation of the Council.”

STEEPLE-CHASING.

IT may not be the habit of many of our readers to peruse very constantly the sporting intelligence published in our columns. It might not, however, be amiss if even those who care nothing about sporting should take an occasional glance at this portion of *The Times*, and more than a glance whenever the words “Steeple Chase” are found in the report. We wish to uphold all the manly sports of the country. We have nothing to say against Newmarket, Ascot, or Doncaster. Regattas, cricketing, pedestrianism—nothing of the kind comes amiss to us. The system of steeple-chasing, however, stands on a very different footing from all other sports now practised in England. It is bad enough at all times. Accidents to horse and rider are of constant occurrence. Still, the folly and cruelty of these exhibitions are suffered to pass unnoticed, until something more horrible than usual calls public attention to the subject. The system then receives a temporary check, to be again worked out in its full barbarity when the occurrence is forgotten.

Within the last fortnight there have been two such accidents. At Lincoln, a jockey is said to have lost his life; at Liverpool, three horses were killed in less than eleven minutes, the time the race lasted. The name of the jockey who met with the accident at Lincoln was Wilson. He was riding Captain Reynard's horse “Blue-bonnet.” It appears from the report, that Wilson came up to the second fence at the same moment with the jockey who was riding “Coriander.”

“The rider of Coriander says, that when he and Wilson were coming up to the fence, he said, ‘Now, who'll go first?’ Wilson replied, ‘I will;’ that he pulled up at the fence, and so did Wilson; and then he, thinking that there was some mistake, dashed on just as Wilson did, and that thus the accident occurred.”

Wilson was thrown, and his mare rolled over him. One arm

and his collar-bone were broken, and his head was severely bruised. On the following day no hopes were entertained of his recovery, and we see in the report in *Bell's Life* that it was rumoured in Lincoln that he is since dead. He was a married man with a family.

The story of the proceedings at Liverpool appears to us far more disgusting, although no life was sacrificed. At one fence, a flight of rails placed on a bank, a horse called "Kilfane" struck the fence and fell into the next field. His thigh was broken, and *his throat was cut*. At another fence, a small bank of earth, a horse named "Equinox" fell, and rolled into the next field; his back was broken; *his throat too was cut*. At another fence, a little farther on, "Curate" stumbled, and rolled into the next field, where another horse jumped upon him. His back, too, was broken, and *his throat was cut also*.

The following extract from a report describes the aspect of the course when the race was over;—

"When the races were over Equinox was found lying in a pool of his own blood. At the next fence, scarcely a hundred yards beyond, lay The Curate, in exactly the same situation; and at the next, Kilfane. The knife having put an end to the sufferings of each."

These are the results of the Liverpool and Lincoln steeple chases, which happened within a week of each other.

As a people, we pride ourselves upon our humanity. There is a society for the Prevention of Cruelty to Animals. Their emissaries are dispatched about in every direction through the metropolis, to take note if an omnibus horse or a donkey be overdriven or cruelly flogged. We have had a law to forbid the harnessing of dogs to carts within the precincts of the town. But the persons guilty of these acts of cruelty might have had some faint shadow of, we are unwilling to call it an excuse, for their barbarity. In the case of these steeple chases no such palliation can be urged. The horses belong to gentlemen. They are not run from necessity, but for sport. If it be impossible that this kind of racing should exist without constant accidents—accidents, too, of so terrible a nature—it should be expunged altogether from the catalogue of English sports. Prize-fighting was bad enough, when two blockheads were induced to stand up and pommel each other to death's door for so much money. If they stepped into the ring, however, it was their own act, and by their own choice. This is not so in steeple chasing; the poor horses, who are spurred and whipped on over the artificial fences, when their strength is spent, have no option in the matter. Go they must; they stumble, roll over, their backs are broken, and their throats cut. And this is sport!

The Times.

VETERINARY JURISPRUDENCE.

—

Liverpool, March 24th.

Before MR. JUSTICE COLERIDGE.—CASE OF WARRANTY.
HYDE *v.* DAVIES.

THIS was an action brought on a warranty of a horse.

Mr. Serjeant Wilkins and *Mr. Aspinall* appeared for the plaintiff, and *Mr. Martin*, Q. C., and *Mr. Atherton* for the defendant.

It appeared that both the plaintiff and the defendant were horse-dealers, the plaintiff carrying on business at Liverpool, and the defendant at Stratton-on-Harrow, in Herefordshire. On the 23d of August last the plaintiff purchased a young chestnut gelding of the defendant for £62, and the defendant gave to him a warranty: "This is to certify, that I have this day sold to Mr. James Hyde, horse-dealer, a chestnut gelding: the said gelding I warrant sound, free from vice, steady in harness, no crib-biter, and no wind-sucker." Next day the horse was sent to Liverpool, and appeared to have a little cough. On being put into the plaintiff's stables the horse looked depressed, and his cough continued. It was then found that he had a sore throat, and, it being supposed that he had taken cold, he was treated accordingly, and had some stimulating application given to him for his throat, after which he seemed better. The horse was afterwards, on the 22d of September, sold to Mr. Widdows, veterinary surgeon, of Bristol, at Howden fair, and was taken to Bristol, and died on the 12th of October. After death there was a *post-mortem* examination of the horse, and his lungs were found to be extensively diseased, to be full of tubercles, and of the substance of liver. The liver was also double its proper size. The veterinary surgeons called in were of opinion, and gave evidence to the effect, that the horse died from disease of the lungs, and that disease was of long standing, and that a horse having such disease was not sound.

For the defence the learned counsel contended that the horse was sound when sold; that he had been bred by a farmer, who sold him to the defendant; that the horse had never done any work, and was five years old, and had been taken the greatest care of, having been bred to sell; that the cause of his death was sudden inflammation, from a cold caught after he had been sold, in his travelling to and from fairs. Veterinary surgeons of eminence were called, who gave it as their opinion, that the horse had died of

rapid inflammation, caused by cold caught by going into hot and close stables, after having been accustomed to live in the fields, and in open and pure air.

Mr. Serjeant Wilkins having replied, his Lordship summed up, and the jury found a verdict for the plaintiff—Damages £62.

The Times.

PROCEEDINGS OF THE COUNCIL OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.

(SPECIAL MEETING.)

Sitting of June 15, 1849.

Present,—The PRESIDENT, the SECRETARY, the TREASURER, Messrs. PEECH, BRABY, ERNES, HENDERSON, ARTHUR CHERRY, and MAYHEW.

The minutes having been read and confirmed,

The Treasurer laid before the Council a statement of the funds in his hands, and also of the liabilities now standing against the College; by which it appeared that the liabilities might now be paid off, and that there would then remain a balance in hand to a considerable amount.

Mr. Ernes moved, and *Mr. Peech* seconded, “That the portion of the debt now remaining be paid off.”

The motion was carried, and it was directed that the cheques should be prepared, in order that they might be officially signed at the next meeting.

Mr. Ernes moved, and *Mr. Peech* seconded, “That the sum of £50 be, as heretofore, placed at the disposal of the Secretary.”—Carried.

Mr. Ernes’ motion to re-commit the proposed code of By-laws was then taken into consideration.

The President, in putting the motion, stated the circumstances under which the proposed code was prepared.

Mr. Ernes, in support of his motion, stated that he wished to have the proposed code re-committed, because he considered that there were certain informalities which had been allowed to creep in.

Mr. Arthur Cherry said that he was particularly pleased at the motion of *Mr. Ernes*, though he did not concur with that gentleman in his opinion of their goodness; but he must oppose the manner in which *Mr. Ernes* proposed to proceed. He had taken much pains to ascertain the manner in which such a matter should be

carried out; and it appeared that when a suspension had taken place, it could not be withdrawn until the expiration of the period for which it was directed to be suspended. But this would not in any way prevent the Council from appointing a committee, or proceeding themselves to act *de novo*; and he should move as an amendment, "That a committee be appointed to reconsider the By-laws."

A discussion ensued, in which all the members took an active part, and Mr. Ernes having, upon explanation, withdrawn his motion, Mr. Arthur Cherry's motion was then carried.

Mr. Braby then moved, "That the Committee consist of the President, the Secretary, Messrs. Field, T. W. Mayer, Robinson, Ernes, Arthur Cherry, Pritchard, Mayhew, and Henderson;" which, being seconded by Mr. Peech, was carried.

Mr. Arthur Cherry, in the course of his observations, stated, that the grounds on which his objections were based against the proposed order were founded on good authority; that at the time he protested against certain parts of them, he was then in possession of a high legal opinion in support of his views, and which opinion, for the information of the Council, he would read to them. The presence of the attorney, at the meeting of the Committee, and the preparation of the code by him, was improper, as the Council only could make by-laws: they had not the power to depute to another. The taking of a legal opinion upon what had been done by them was another affair, and was for the purpose of ascertaining that they were within the bounds of legality. He also stated, that the basis upon which the code ought to be prepared should be by providing laws for the body corporate, and for the students or candidates for admission to membership; that the charter expressly declared their power on these points; that he hoped he should hear no more of consulting the teachers or schools: with them he had always contended that the Council had nothing to do, nor ought they ever to have been considered; the Council had endeavoured to meet their wishes, and had consulted them; but this act of consideration, the result of courtesy and good feeling, had been met with contumely, double-dealing, and the most violent opposition on the part of the schools; that this must have an end, and the schools be left to themselves; and the students would be quite sufficient coercive power over them—a power infinitely more compulsory than that which the Council had wished to see exercised only by good feeling and co-operation.

THE VETERINARIAN, JULY 1, 1849.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

MR. GLOAG having brought his experiments on the expansive properties of the hoof of the horse, in our present Number, to a close, the time is arrived for us to make a passing remark or two on them. We are ourselves perfectly aware, and so, doubtless, are most of our professional friends, of the difficulties with which experiments such as Mr. Gloag has been engaged in are beset, and the objections to which they are liable, when their declared object comes to be to solve no less a problem than the action of the living horse's foot. No veterinary subject has been investigated with more pains than "the foot." In the last century, Solleysell, La-fosse, and James Clark; in the present, Coleman, Girard, Goodwin, and Bracy Clark, have all laboured in this inviting field of research, and through their joint exertions have built up a system of plantar physiology which time has done something to establish, and which certainly, after the years it has stood, is not doomed to fall under any light or casual attack; though, like all other old fabrics, it may be shewn to have its faults—be perhaps with advantage modified or added to, and even pulled down in places to make room for alterations and improvements. In the remarks we are going to make, it is not our intention to enter into any physiological disquisition on the foot, but to confine them to the question of expansion, and to restrict this question so far as it applies only to the parts of the hoof said in particular to be the subjects of expansion, viz. the heels and quarters.

The phrase "expansion" is comprehensive enough, even as applied to the horse's foot. It may be accepted either in the sense of any spread or dilatation the hoof may undergo in action or out of action, with or without the imposition of weight upon the horse's back; or it may merely signify any increase of width the hoof is found to obtain at bottom in the course of growth downward from the coronet. Mr. Gloag's experiments have reference, in particular, to the former of these; or rather, we may say, they were instituted for this special purpose.

The foot of the living animal, in respect to any action or motion observable in it, is to be considered under two different states, viz. in a state of rest, and in a state of motion. It would be, we think, a difficult matter to persuade anybody acquainted with the beautiful machinery of the horse's foot—to which the hoof, like the case to the watch, forms but the covering—that such was designed to remain motionless, perfectly quiescent; and that it simply answered the purpose of attachment, or firm and inseparable union. And if he came to reflect upon the matter, and turn over all that he had seen in the interior of the foot in his mind, he would become full of apprehension that such delicate and complex mechanism as the hoof contains would by concussion, every time the hoof came to the ground, be smashed to pieces. And if he were told this was guarded against by “spring,” would he not reply, “then where there exists spring there must be motion; since we have no conception of one without the other?” Whether this motion be no more than a “yielding” of parts, or whether it can be said to amount to what Professor Coleman called the “descent” and “ascent” of certain parts, is one question to be solved. Another is, what parts of the foot are susceptible of motion. A third, under what circumstances does motion of them take place.

It is hardly necessary for us to premise that the experiments we are about to analyse were made on the *fore* feet of horses; the hind, every veterinarian and horseman knows, are, comparatively, so rarely the seats of lameness or failing, that in inquiries like the present hardly any account is taken of them.

Experiment I demonstrates, and Experiments IV and V, tend to confirm the fact, that so long as a horse is standing still, passively bearing his weight upon his feet, even though by lifting one foot the entire weight of the fore parts of the body is thrown upon the other, no expansion of those parts which we are given to believe are the readiest expansible, viz. the heels and quarters, though the hoof be unshod, takes place. This, as the result of a state of inaction, is no more than we should have anticipated. Whether the imposition of weight upon the animal—such as one or two mounted men—would have anywise varied the result, still remains questionable. We suspect, however, that it would not.

This question so far settled, the inquiry that naturally followed was—is any, and what, expansion of the heels and quarters of the hoof produced by the force of action; seeing that quiescent force has failed to elicit any? In the former experiment the hoof remained unshod; but it was difficult to conduct the present inquiry in the absence of the shoe; at least with that nicety and exactitude with which Mr. Gloag, through aid of the shoe, devised means of arriving at certain results. His experiments under this head lead to the conclusion, that in the shod foot, under the force of action, not the smallest expansion of the heels or quarters could be observed to take place. Notwithstanding, there was motion going on in the foot, as was plainly evinced by the descent of the navicular bone, shewn, by the wax composition with which the foot was plugged, to have taken place upon the horny frog at the distance of one inch posterior to its point. Several repetitions of experiment were directed to the solution of this point, but all merged into one uniform result, and that was, the non-indication of any expansion of the posterior parts of the wall of the hoof.

From this being a result directly contrary to received and believed opinions, we must confess it is one for which we were not prepared. Nay, we will venture a step further, and add, it is one to which we cannot, without further proof being adduced, subscribe our assent; and we will give our reasons why we cannot.

Mr. Gloag's experiments were made on *shod* hoofs; and, on that account, we do not feel ourselves warranted in drawing the inference, that, because no expansion could in them be detected, *ergo*, none would have taken place under similar circumstances in unshod hoofs. Indeed, we are prepared to shew by an experiment, *quantum valeat*, not made for this but for another purpose, that expansion of these parts of the hoof does ensue in action.

We happened to be engaged in making trials of the horse-sandal when the following result several times occurred. It was proposed that the shoe of the sandal, for the sake of lightness and portability, should in every respect be made the same as a racing plate, save that it should be, for places of attachment for the straps, fitted up with *outside* clips. Thus constructed, it was buckled on the horse's foot in the same manner in which the present horse-sandal is, and the horse was trotted with it on. The invariable

result was, that the shoe was cast; and when it was picked up and examined, it was found to have undergone *dilatation at the heels*; to which cause was ascribed the circumstance of its being thrown off the foot. The experiment is one readily made, and can at any time be repeated.

In a conversation we lately had with a friend of ours on this very important subject—a gentleman who stands in the highest rank among metropolitan veterinary practitioners—he informed us, if the experiment be made of stopping up the ground-surface of an unshod hoof with clay, after the sole has been made thin and yielding, and the horse be compelled, by lifting the opposite foot off the ground, to bear his whole weight upon it, that evident signs of displacement of the clay become visible when the stopped foot comes to be lifted and examined. So long as the clay firmly adheres at every point to the foot, and that it is at bottom accurately level with the ground, it is evident no displacement can take place without pression produced by the squeezing or lowering of some part or parts of the foot upon it; consequently, *descent*, if not *expansion*, is shewn by this depression or displacement of the clay.

Such results of experiment on the unshod hoof nowise invalidate Mr. Gloag's experiments on the shod foot; they disturb only so much of his reasoning upon them as would induce him to believe that in the *natural* condition of the foot no expansion of the heels and quarters takes place. His deductions, so far as the shod hoof is the subject of experiment, maintain their position, and shew us that, by shoeing, we not only in part, but *in toto*, destroy the expansive faculties of the foot. Nor do we believe that we in any degree modify this result by one-sided or other nailing. We think that the simple circumstance of firm and fixed pressure of the hoof upon the shoe, without nails through them at the quarters and heels, is of itself sufficient to constitute fetter.

Bating for a moment the question of expansion, our attention is drawn to an observation made and confirmed by Mr. Gloag in the course of his interesting experiments, and which is not only of consequence as casting some side light on expansion, but also as accounting for a fact better known, perhaps, to farriers than to professional men, which is, the relief afforded horses going lame in their feet by what is called "springing" the heels of their shoes. Now

and then we find that one shoeing-smith will shoe a lame horse in such a manner that he goes a great deal better when shod by him than when shod by another hand. The fact is evident to our senses, and there appears some mystery about it. We investigate the matter, and find that this smith has sprung the heels of the shoes.

Now, what does this "springing" effect? Mr. Gloag has supplied the answer to this question. The intervals left between the heels of the shoe and the heels of the hoof become closed every time the foot is placed upon the ground, but re-open the moment the superincumbent pressure is removed by lifting the foot off the ground. The shoe in both cases remains a fixed point; the moving body, consequently, must be the hoof: in Mr. Gloag's words, "the heels descended." And there was found to be that consentaneous action between the two sprung heels that when one was stopped by the introduction of a wedge of iron between it and the shoe, the other was found not to descend "to the same extent as when both heels were at liberty."

Other questions involved in the physiology of the foot are more or less affected by these experiments, for the consideration of which this month we find we have left ourselves no space; we must therefore let them for the present stand over. We cannot, however, conclude, without tendering to Mr. Gloag our best thanks for his exertions towards the advancement of science; nor without conveying to him our hope that he will persevere in the good cause he has taken up, and some day or other afford us an opportunity of publishing a *second* series of experiments, interesting not to veterinary people alone, but to the entire horse world as well.

We have received a letter reminding us that "the late Professor Coleman left by will the sum of £110, with the intention that the interest arising therefrom should be devoted to the purpose of a prize to be annually awarded to the writer of the best " 'Essay on Veterinary Science;' " and asking us if "any of our readers can afford information as to the fact of any such prize ever having been awarded, or of any public announcement thereof having been made, such as would give those who chose to become competitors for the prize an opportunity of so doing." Perhaps some of our readers will kindly enlighten us on this subject.

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No. 20.

AN ESSAY ON THE MANAGEMENT OF THE FARM
HORSE,

CONNECTED WITH THE BREEDING AND REARING OF THE ANI-
MAL; AND WITH THE MOST APPROVED PLAN OF FEEDING.

By ROBERT READ, *M.R.C.V.S., Crediton.*

“ Order is gain : waste not, want not.”

[Concluded from p. 392.]

Stable Management.

THE cart-horse or colt that has never been stabled, when taken up from grass and at once housed or confined in the stable, should never be put on a full diet of hay and corn; but have bran mashes, and food in moderation allowed him for a few days, and be gradually inured to manger feeding. The change in the food is apt to induce in some horses, when first stabled and more liberally fed, grease or swollen legs, with cracked heels. A dose of physic will then be required, followed by a little alterative medicine. In the management of the stable, cleanliness should be strictly observed; too little attention being generally paid to this department by the farmer. It has been truly said, that there is not one stable in twenty cleaned out every day: urine and dung, with decomposed litter, are consequently accumulating every day, impregnating the air with foul exhalations; the respiring of which must have a baneful influence on the blood as it passes through the lungs. A pure atmosphere is requisite for the maintenance of the healthy functions of the different organs of the body; a vitiated atmosphere is sure, sooner or later, to induce actual disease; witness the stimulating effect of ammonia on our eyes on first entering a stable in the morning. The ill effects of confined air is soon apparent on the lesser animals: they soon die in small close rooms. The stabling

of horses is a deviation from nature ; it is, therefore, incumbent on those who have the care or management of horses to have their stables well aired and cleaned. When epizootic disease visits any locality, stables that are unclean or ill ventilated are generally the first to suffer. There are no facts wanting to prove that even glanders or farcy may be induced by living in a polluted atmosphere. How important, then, it is for stables to be kept clean, and have a due admission of air properly regulated. The majority of farm stables are so ill constructed that the wind rushes in from every quarter through crevices ; though so much evil will not follow this as follows the blocking up and keeping out every draught of air. In farm stables the smell of ammonia is not so pungent, neither does it accumulate to the same extent as in better establishments ; for as fast as it is generated it escapes through the hay-loft. In them the greatest neglect consists in not daily removing the dung and saturated litter. In ceiled stables, no matter how high, the ammonia will be reflected, if no tubes or funnels ascend through the hayloft out through the roof of the building. In all stables where the hayloft is over, the ceiling ought to be securely plastered, to prevent the ammonia or any foul exhalations being imbibed by the food. In the construction of stables, and where space is no object, the loft should never be over the stable. No stables or boxes smell so sweet as those over which there is no other covering than a well slated roof, or a ceiling well perforated with small apertures throughout. The purity of the air in the boxes of Mr. Wreyford's racing establishment I have frequently remarked, over which there is nothing but the roof, with a small funnel. Ceiled stables, even with funnels, do not allow the ammonia such freedom of escape as roofs over with perforated ceilings : it will still be reflected in part from the angles. Through a well-slated roof, properly laid on, no fear of draught or dropping upon the horses need be apprehended : it will be sufficient to completely allow all noxious vapours to escape without the admission of the least moisture. In the ventilation of stables, it is not a rush of air that is required through them, but a constant or continued change of pure air.

The renewal of air is absolutely required for all inhabited dwellings, either of man or other animals ; even perfect ventilation will not succeed if it is not accompanied by the removal of the excretions as soon as they are passed by the animals. Windows should be contrived so as to admit light and air for ventilation without a current. Tubes or funnels, which are for the escape of foul air, should be, at least, from eighteen to twenty inches at the bottom, and ascend so as to narrow to about five or six inches. The number required in a stable must, of course, depend on the size and number of horses kept. In the paving of stables, they should be

so constructed as to allow all the urine to run into stink traps communicating with the tank or dung-heap; and the drop or inclination in the pavement ought not to exceed three or four inches, at the most, in ten or twelve feet. Some farm stables are so much inclined as to induce disease, from throwing too much weight upon the hinder legs; the back sinews are kept on the stretch, and lameness is often caused by it. For the horse, the trap or sink ought to be in the centre, with the paving of the stall inclined on every side toward it. Stall divisions should be from seven to eight feet wide, and ten feet deep; the entire depth to be from eighteen to twenty feet, which allows plenty of room behind the horse: accidents will then be avoided in passing to and fro behind the horses. Most stables are too much confined in this respect. Litter or bedding slightly spread over the stalls is desirable by day, with a good supply of clean straw at night. Keeping the stall littered entices the horse to stale, which some will not do for hours unless some kind of bedding is under them. A stall kept littered also invites the animal to lie down, which is very desirable for the hard-working horse. Opinions as to allowing horses to stand on litter are divided. No evil will arise from its use if only removed as soon as saturated or soiled. Grooming is also an indispensable requisite in the management of the farm horse; it promotes health, excites the functions of the skin, and gives the coat a beautiful gloss: in fact, a fine coat cannot be produced without it: friction circulates the blood—hand-rubbing the extremities prevents swelling of the legs and cracked heels. It is not the food alone which, as some carters imagine, makes the horse look well; there is another great help, and that is, good rubbing, brushing, and cleaning. The benefit of friction is soon apparent on the legs of tired or over-worked horses; all stiffness and soreness soon subside; they become fine, and free from enlargement, and warmth is soon restored, and the animal is inclined to take his rest by lying down. The farm horse would not be so liable to grease if more attention was paid to the cleanliness of his heels; freeing him from all dirt and wet collected about them by brushing and rubbing, instead of taking him to the pond and washing off the dirt, and then letting them dry of their own accord. Attacks of inveterate grease, of inflammation of the lungs, bowels, and feet, frequently follow this hurtful plan of ablution, sometimes terminating fatally. It is thus that the badly-groomed horse is so often the victim of disease and distempered condition. The mal-practice of carters and wagoners in giving strong and spicy stimulants to their horses to induce fine coats cannot be too strongly shewn up to their masters or owners as a custom highly reprehensible: it is one, however, that has been so long in use, that time will be required for its eradication.

It consists of a recipe which has been handed down from father to son from time immemorial. Some carters or wagoners do not consider themselves master in their art before possessed of one of these receipts; the cost is sometimes fifteen or twenty shillings to purchase it; and some carters will expend two shillings per week out of their wages to buy the drugs during the whole time of stable-feeding. The formula consists of grains of paradise, cayenne pepper, cantharides or Spanish flies, with a host of other injurious ingredients. An occasional tonic, or a few condition or alterative powders, is of great service to the over or hard-worked horse: it is the injudicious administration of spices and stimulants by the carter, unknown to his master, that is so much to be condemned. To produce a fine coat is the purpose for which the carter gives them. Very few medicinal agents are required to bring this about. A moderately warm temperature, suitable clothing, with good grooming and cleanliness, are most essential points to be attended to in producing a good coat; whereas, hot stables, excess in clothing, and stimulants, are chiefly resorted to by the indolent carter or groom. Regular feeding, with attention to the animal's external wants by the carter, is as much as is required by the farmer's horse; and the same attention ought to be paid him as the hack, hunter, or carriage-horse receives from his groom.

CLIPPING THE CART HORSE.

Earnest attention has been paid to the clipping of the hunter and roadster, for the last twenty years; it forms, indeed, a principal feature in their stable management. Within the last few years the cart horse has been put under its influence. The effect produced is as extraordinary, as a salutary measure, in the cart horse as in the higher bred horse. From my own observation on the clipping of the cart horse, I can speak of it in terms of commendation. It is well known that farm horses, more especially those that are taken up late from grass in the autumn, acquire, about the latter part of November, a long, woolly coat, which sets so close that neither brush nor comb can penetrate it. But little work makes them all over in perspiration; they become languid and dispirited; wagoners and carters complain that they can never get them dry; in fact, if the weather is warm at this season they will sweat in the stable, have an impaired appetite, and can scarcely perform half-a-day's work without tiring. Let the horse be clipped. It is no more marvellous than true—in ten days he will be a different animal: his vigour and spirit will return; his appetite and condition rapidly become restored; no clammy or

cold moisture will bedew him; and his work will become to him enduring. Its action, therefore, turns out to be a tonic, and no tonic has proved more effectual in restituting the horse from a state of debility to one of strength. I will venture here to offer a few remarks on the "rationale" of clipping. It is by some considered an outrage on nature: so is domestication. The horse, as winter advances, is more abundantly supplied with hair for the purpose of keeping him warm. This is a wise provision for the animal living in a natural state; having to contend with a diminished temperature, cold, storms, rain, and snow, with no other shelter than a quick-set hedge. He uses but little exertion, and mopes slowly about in search of food, and but seldom increases the temperature of his body by active exercise. Reverse all this. The domesticated horse is kept in a warm stable, well fed with food containing elements necessary for respiration and nutrition; he is clothed and bedded; a long coat is not compatible with high feeding, warm clothing, and active work; for it is in the mean the same thing as making a man perform active or laborious work wrapped round in a blanket. On the road side we see the stone-breaker, in the depth of winter, with the thermometer considerably below the freezing point, with his coat off, and thinly clad, whilst the passer-by can hardly keep himself warm in his great coat. In the one, active work increases the heat of the body: in the other, every care is used to prevent its escape. Thus is demonstrated how it is a horse so soon gets into condition when deprived of his excess of coat (his winter clothing) by the operation of clipping. The horse, as I have before said, that is well fed and has full work needs no additional coat to maintain the heat of his body in winter: it is only the animal in its natural state that wants this. A clipped horse, returned home from work, is soon made dry, clean, and comfortable; the unclipped horse will require hours to be made any thing like comfortable; and very frequently his sweat is still hanging on him in the morning, at the time he is taken out of the stable to perform his renewed daily labour.

John Courtier, Esq., Moretonhampstead, Devon, has for several years past had his farm horses clipped, and he informs me the effect produced is very decided, and that two horses clipped will perform as much work as four unclipped, provided their coats be in that state or condition in which clipping is demanded. Some imagine the clipped horse must be more liable to cold. The opinion of those farmers who have for some time tried it is, that they are not so susceptible of cold or coughs as the horse with a long coat, who is in a continual state of sweat and moisture. Some horses do not require clipping, having naturally short coats; and such horses generally keep up their condition and strength. This still

argues in favour of clipping. However, I must now break off the subject, fearing I have occupied too much space concerning it already.

Medicinal Agents and Dietetics.

A long detail of the causes and symptoms of disease, with the treatment, is not required in this Essay. I shall, therefore, mention only those that come more directly under the cognizance of the carter or wagoner, and which belong to the management of the horse when in the stable. Many valuable horses are annually lost from the want of a little tact on the part of the horseman. In cases of sudden illness, how indispensable is it that a carter or ploughman should be able to bleed. It is not in all places or at all times the aid of a veterinary surgeon can be obtained. The life of many a valuable horse has been saved through my instrumentality in recommending the owners of teams to supply their men with fleams. The abstraction of blood, as soon as possible, when any acute or sudden disease comes on, is the sheet-anchor. The administration of medicine, and the application of local remedies, should also be understood. In the giving of drinks, the head must not be held up too high, nor the tongue so pulled out of the mouth and so firmly held with the hand as is usually done. It must be recollected that the tongue is an organ required for swallowing. Many horses I have known to be killed by reckless and slovenly drenching, more especially when debility has existed. In the giving of balls, the hand or the balling iron should alone be used. Some, who are not dexterous in giving a ball, through fear of being bit or having their hand injured, place it on a stick and thrust it back over the tongue: such practice is dangerous: I have known horses destroyed by it, the stick having passed into the larynx, and, laceration of the parts being the consequence, death has ensued.

Cataplasms or Poultices.

In their application two things are very necessary to be attended to; viz., not making them too thick, and, when applied, keeping them constantly moist with warm water: if allowed to get dry, they do no good. Equal parts of linseed meal and bran form a good poultice for common purposes. In grease or cracked heels, or in wounds having a fetid smell, a solution of the chloride of lime or powdered charcoal should be added as a corrective. In lesions arising from picking up a nail, or from a prick in shoeing, after the part is well pared down, linseed meal, made into a paste and applied as a stopping, is very beneficial. Poultices soon turn sour,

and ought to be changed every twelve hours. Mashed carrots or turnips, mixed with oatmeal or linseed meal, is also a good emollient poultice, being very retentive of moisture. For stopping the feet, either of the race-horse or hunter, or hack, nothing is better than linseed meal made into a paste. It is easily done, and retains itself in the feet better than any other substance.

Mashes

Are of much service, either for the healthy or disordered horse; for the tired or overworked animal, likewise, nothing is more refreshing than a mash in addition to his usual feed. During illness, or in any severe disease, bran should form the horse's chief diet. The proper method of making a mash is by pouring boiling water over the bran, stirring it well, and covering over the pail until it be cool. Mixing the bran with hot water is not so effectual as pouring boiling water over it: bran is rendered more digestible and more aperient when infused in water at a boiling temperature. As a preparation before giving the horse a dose of physic, bran mashes should be freely supplied, and also during its operation: a much smaller dose will act if the horse be well mashed, thus doing away with those outrageous doses of aloes so often given, and but too frequently causing superpurgation, and sometimes death. Malt mash forms an excellent restorative for the horse during convalescence: it is very nutritive, and excites the appetite. In making a malt mash, infuse it in water only warm; do not pour boiling water over it, as it will make it clog together. Mashes ought to be frequently renewed; if not, they soon turn sour.

Gripes or Colic.

The farm horse is very liable to this disorder. The chief cause is error in diet. Bad hay, musty oats, excess of raw bulbous roots, sudden exposure to cold; and as frequent a cause as any, is the rapid ingurgitation of cold water, either on the road or at the horse-pond, when the animal is heated. An attack of colic or gripes is sudden: no premonitory symptoms are evinced. The horse is seized all at once with violent pain, looks round to his sides, begins to roll, and endeavours to fix himself upon his back, in which position he finds ease: there is an intermission in the paroxysm. The legs and ears are of the usual temperature; and motion as well as abdominal friction gives relief. In an attack of enteritis or inflamed bowels the approach is gradual, with previous symptoms of fever and dulness. The pulse is also quickened in inflammation; whilst in gripes, in the commencement, it is seldom altered. The legs

and ears are cold, and motion and friction of the belly increases instead of relieving the pain. These symptoms will be sufficient for the carter or wagoner to distinguish the one complaint from the other. As soon as the animal is seized, to relieve the spasm, bleed. Blood-letting is a powerful antispasmodic, and its timely performance has saved many a valuable animal. Give, as soon as possible after bleeding, two or three ounces of laudanum, with the same quantity of spirit of nitrous ether, in a pint of warm water. Of all the external agents, in affording relief to the griped horse, nothing can be compared to *dry heat* applied to the abdomen. The common warming-pan for this purpose is admirable. Put some coals into it, and make it as hot as you can bear your hand lightly upon it; pass it quickly under the belly, to and fro, continuing it for ten or fifteen minutes at a time: so grateful does it prove to the animal, that he will stand quiet to have it done, although manifesting great pain previous to its application. It is also the speediest method of drying the horse when he is covered all over with sweat: in this way, it will do more good in five minutes in drying the surface of the body than five men shall do in an hour by hand-rubbing. In inflammation of the bowels, whether primary in its attack or the sequel of gripes, the aid of the veterinary surgeon had better be obtained, since the treatment must then be regulated in accordance with the symptoms.

Alteratives

Are very useful in the farm stable in cases of cracked heels, swollen legs, grease, or surfeit. They are very liable to be misused by the carter or wagoner: giving them too often, or in too large a dose, is a serious injury; it over-excites the kidneys, and inflames them occasionally. It is the outrageous doses that ought to be protested against. Frequently, two or three ounces of nitre and resin are given for a dose, two or three times a week, by people ignorant of the effect it produces. Excessive staling is the result, followed by debility. All that is required is just medicine enough to excite the kidneys, which one-fourth of the dose will do. Medicine ought never to be at the command of the carter or wagoner, without his first receiving instruction from some one competent to inform him of its action and use. Great impropriety exists in some stables in allowing such persons to procure what medicine they think fit to drug their horses with. Whatever is had should be purchased from respectable vendors, and have labels attached to the same, to prevent any mistake, as well as for the inspection of the master, hind, or bailiff.

Thrush and Cankered Frogs.

The cart-horse is very subject to these complaints. To cure the former malady the following mixture answers the purpose well: Take of common tar four ounces, sulphuric acid six drachms, alum in powder one ounce: mix these ingredients well together, and apply the mixture at night, first cleaning out the parts well. Keep the feet dry, and do not allow them to be saturated with dung and urine, which is but too often the case in farm stables. All ragged or under-run portions of the frog should be cut off, which will destroy any harbour there may be for the diseased secretion. It is necessary to use caustic when fungus sprouts up, or, in other words, when the case has turned to canker. The veterinary surgeon had better manage the case then, it being out of the reach of any carter or wagoner.

Estimate of Cost in rearing a Cart Colt until he be four Years old.

Before concluding this essay, I shall endeavour to calculate this expense as nearly as possible. It must be subject to some variation; enough, however, will be shewn to demonstrate that it is not a very profitable concern. Taking the average value of cart colts, rising four years old, it will not exceed £35 each. A colt's work cannot be of any considerable value before he is arrived at that age. Very few farmers, comparatively speaking, breed cart colts with the expectation of realizing much profit; full well knowing a much greater gain arises in converting the same quantity of food into beef or mutton, milk or butter. I will now endeavour to estimate the cost of the different items, though I still fear the attempt will turn out imperfect.

Stallion	2	2	0
Groom's fee	0	5	0
Mare's keep, before and after foaling; six weeks, at 3s..6d. per week	1	1	0
Keep of colt at grass and in straw-yard, with a fair share of oats during the winter, at 3s..3d. per week, for three years	25	5	0
The colt-breaker's time occupied, valued at	0	14	0
Oats and keep during breaking-in, 6 pecks per week, for two months, at 3s..9d. per week	1	10	0
	<hr/>		
	£30	17	0

In specifying the items of cost, many other incidental expenses could be named, which would still lessen the little profit attached

to the breeding of the cart colt ; such as accidents in breaking-in, missing foal, abortion, risk in castration, the occasional injurious effect of strangles and quinsy, smiths', harness-makers', and the veterinary surgeon's accounts, with numerous other items, all tending to keep down the profit to the farmer. Some farmers estimate the cost of a colt for three-and-a-half years, including every expense, in the rough, to be about 3s..6d. per week ; which will make a total cost of more than £32. Now, supposing the colt should fetch £40 (and it must be a very good one to realize that sum), it plainly shews that there is not much gain in the end. The generality of farmers believe themselves to be on the losing side when they breed, taking every thing into consideration. On some farms there is a plenty of rough run for the farmer to depasture or rear a colt for his own use, in which no extra care is required or any additional feeding is given. This may be advantageous to the farmer in producing for him a colt to his hand, to make up his team, in case of loss from disease or any other cause. The breeding of the hunter or carriage-horse is attended with more profit ; yet there are also a great many risks to run until he arrives at a proper age. This essay being only intended for the management of the cart-horse, connected with breeding and rearing, it is not to be expected that I should enter into the expense of breeding and rearing the carriage-horse or hunter.

In concluding this essay, it must not be considered I have written all that can be said on the rearing, breeding, and the management of the cart-horse. To fully detail such a subject would furnish matter enough to fill a volume of *THE VETERINARIAN*. I have endeavoured to give a brief view of the subject. I trust I have said enough to point out the principle to be attended to, which is required in the different divisions of the essay for which the prize is offered*. What I have asserted is derived from twenty-five years' observation. Yet observation is liable to error. However, I have much pleasure in stating that what I have written is the result of experience founded upon recorded facts. Should this essay afford only a mite of information to those who read it, it will afford me pleasure and satisfaction in feeling that I have given some little instruction for the better management of a most useful and willing slave,

THE FARM HORSE.

* By the Royal Agricultural Society.

LAMENESS IN HORSES.

By WILLIAM PERCIVALL, *M.R.C.S. and V.S.*

[Continued from p. 136.]

CAPPED HOCK.

SUCH is the NAME given to any fulness or actual enlargement of the natural cap or point of the hock. French veterinarians call the swelling a *capelet*, whence our old writers on farriery have derived their word CAPULET, the appellation they have given to capped hock ; though why they have changed the *e* into an *u* is not very apparent.

THE POINT OF THE HOCK is a part notorious to every horseman. It is constituted of the tuberosity of the *os calcis* or hock-bone, and serves as the powerful lever whereby the “ hamstrings ” or tendons of the *gastrocnemii* muscles, are enabled to perform so important a part in progression. These two tendons, as they descend along the back of the thigh to the hock, twine round each other in such manner that the outer tendon belongs to the inner muscle, the inner tendon to the outer muscle. The latter is inserted into the tuberosity, and there terminates ; but the former (or outer tendon) as it approaches the tuberosity, expands and forms a cap for it, and so becomes a very complete bursal structure ; whereby it is enabled, in its subsequent course to the foot, to play over the inserted tendon freely and without friction. This internal or tendinous cap is surmounted by an external, subcutaneous, fascial cap, which, from its being formed in the midst of an abundant cellular tissue, is, together with the skin covering it, extremely loose and moveable upon the tuberosity. This, the outer cap, differs from the inner one not only in structure and completeness of cavity, but also in its contents ; it being, in fact, naturally, little else than the semblance of a cavity, having no more indications of fluid in it than would arise from the presence of *halitus* within the cells of its parietes during life. But,

IN A DISEASED CONDITION—for this is the usual seat of capped hock—its state is different. Augmented secretion is excited, and this condenses into serous fluid, collects, and becomes confined within the cavity now perfected by adhesions cementing together the cells of the surrounding porous tissue ; so that in a very short space of time distention becomes visible around and upon the point of the hock. In reality, therefore, capped hock is no more than a serous abscess, attracting particular attention from its situation, and

exciting the concern of the master of the horse in something like equivalent ratio to its dimensions, or to such estimate as he may in his own mind come to of its deformity. So short is the time in which capped hock on occasions arises that its origin is often said to be "sudden." The groom quits his stable overnight, seeing his horses "all right," and on his entry next morning discovers one of them to have a capped hock. The history, as he full well knows himself, of which is, that the injured horse has been kicking in the course of the past night, and some how or other has contused the point of his hock. The swelling, globular in shape, and as large round as an Orleans plum or a small orange, imparts warmth when pressed by the hand, shews some tenderness when squeezed, and at the same time conveys a sense of elasticity and fluctuation to the fingers. Should it be punctured or cut into in this recent condition, yellow serous fluid, similar to what runs from serous abscess, is discharged.

In this stage of the disease little or nothing besides prevention of repetition of injury is requisite to insure the gradual, and in time complete, subsidence of the swelling. But too often, however, it happens that the kicking is renewed, perhaps the following night, the consequence of which is still further enlargement of the cap, together with, should it not have come on at first, the supervention of inflammation in it. In this way the swelling may attain the magnitude of a small gourd, and even a larger size than this, becoming not only a great deformity, but a tumour of a frightful and alarming character. Nor will matters make an end here; for, in time, whether there take place absorption of the collected fluid or not, morbid changes will ensue in the condition of the external or subcutaneous cap. From being thin and simply fascial in texture, it becomes thick and fibrous, tendinous even in substance. Neither will the skin clothing the cap remain unaltered, but likewise will become thickened and indurated. In old and callous capped hocks we readily detect with the hand these changes of structure; and, supposing we are bold enough to puncture them or introduce setons through them, the trocar or seton-needle will be sure to betray the change the parts have undergone in the additional force required to penetrate their several tissues.

Even when operations of the kind are undertaken under different circumstances, they are very apt in the end to leave behind them changes (should they not be already in existence) such as I have been just describing; though the immediate and pretty certain result of making a wound into a capped hock is suppuration or abscess of the cavity. This it is that makes the puncture of capped hock a dangerous experiment, the suppurative action

not only on occasions creating a great deal of alarming inflammation and swelling in the limb, but giving rise sometimes to constitutional irritation as well. I have known a pint and a half of pus to be collected within the morbidly enlarged cap, owing to abscess induced by the operation of setoning. This is what we call

ABSCESS OF THE CAP, a case I have no recollection of having seen happen but under circumstances of treatment, and mostly after operation. In such a condition of hock and limb as abscess commonly engenders, the features of the case become, as a matter of course, materially altered. Pain and lameness will now be the consequence of inflammation and swelling. Instead of having to treat the hock alone, we are called on to administer to the entire limb, and perhaps to the system of the body as well. And after we have been fortunate enough to allay all irritation, to reduce the swollen limb to its natural size, and to bring back the hock to *statu quo*, still is there likely to remain, and permanently so, a good deal of callous enlargement and deformity of the parts diseased, as well of other parts in their immediate vicinity.

THE INTERNAL, TENDINOUS, SYNOVIAL CAP OF THE HOCK now and then participates in the disease, though never in itself the primary or principal seat. Knowing, as we do, what susceptible structures bursæ are, it is not to be expected that any great amount of inflammation should exist in their immediate vicinity without some sympathy on their part; and therefore we have a right to suppose—indeed, to infer, as far as proof can through manual examination be afforded us—that no great deal of lesion befalls the outer cap without the inner one becoming, sympathetically perhaps, affected. M. Rigot, however, doubts this. He imagines the tendinous cap is too closely bound down to admit of any accumulation of fluid*.

THE CAUSE OF CAPPED HOCK is, in two words, *external injury*. The horse's hind legs are used as weapons of attack and defence, as well as instruments of progression. When not fatigued by labour during the day, he will on occasions, particularly if he be viciously or playfully inclined, pass part of the night in kicking against the heel-post or partition of his stall, and in doing so can hardly fail to strike and bruise so prominent and vulnerable a part as the cap of his hock. Kicking in harness against the splinter-bar is likely to be attended by the same consequences. A horse may bruise his hocks by slipping down upon his haunches. Even lying down upon rough stone pavement without litter has been known to produce contusion of the caps. In fact, a contusion or

* Les moyens d'affirmissemens sont si puissants, et en si grande nombre, que je doute fort qu'il puisse jamais presenter ce genre d'alteration.—*Anatomie des Animaux Domestiques*.

wound of any sort will have the effect. We need, therefore, not express any surprise at encountering so many capped hocks in our daily perambulations.

In answer to some inquiries I made, Mr. Braby, Veterinary Surgeon to Messrs. Barclay and Perkins' Establishment, whose accuracy of observation and experience enables me to write confidently on the point, informs me that the spreaders, dangling about their horses' hind limbs, being too high placed to strike the hock, are apt to produce (not capped hock, but) a thickening of the skin, with, sometimes, abrasion, of the part of the thigh immediately above the point of the hock; and he adds the instructive fact, that the hock of the cart-horse is nothing like so obnoxious to disease in general as that of the light horse. The cart-horse's hock ailments principally arise from his being thrown upon his haunches in the act of backing loads: this occasions often contusion of the cap of the hock (as well as of other parts), which is followed by more or less inflammation; and the usual result of this is, thickening of the integuments around the point of the hock, rendered permanent by subsequent induration and callosity of the parts.

A CAPPED HOCK MAY HAVE A CONSTITUTIONAL CAUSE. It may arise in common with tumefaction of other parts, from "humour." What I have, in another place, called "Diffuse Inflammation of the Cellular Tissue"—a disease very apt to fall foul of the hind limb—will produce it. There being such an abundance of cellular substance around the cap of the hock, renders it an inviting part for infiltration in dropsical or œdematous affections, which readily accounts for the fulness or swelling of this part under circumstances of the kind. And nothing better than this explains the real nature of ordinary capped hock. In such a case, of course, the tumour here will increase and diminish, and disappear altogether, with the swelling in other parts of the limb. As another constitutional, though a much rarer, source of capped hock, may be mentioned rheumatic inflammation of the joint of the hock.

CAPPED HOCK DOES NOT PRODUCE LAMENESS; not, at least, in any ordinary form. There must be something unusual about the case for lameness to be present. And there is more likelihood of its appearing after treatment than before; shewing that the means employed, when they are violent or such as are uncalled for, are apt to prove worse than the disease. It is possible in a case of capped hock of unusual magnitude, attended with more than an ordinary degree of inflammation, that stiffness may be observed in the motions of the joint, though this hardly ever amounts to actual lameness. It is after bold and violent treatment, such as blisters and the operation of puncturing the distended cap, that

lameness is most apt to come on ; but, then, this arises from extension as well as aggravation of disease, and, properly speaking, has little or nothing to do with a pure case of capped hock.

THE TREATMENT OF CAPPED HOCK, in the form in which it ordinarily presents itself, is really more a matter of choice than of necessity. So far as the animal's utility is to be considered, he is quite as serviceable with a capped hock as without one. And yet, having it, he carries about with him a great disfigurement: at least, such it appears to my eyes, though there be those who are of opinion that some enlargement of the cap of the hock rather adds to than detracts from the fair proportions of the hind limb. Other persons there are—and I must confess myself to be among the number—who so dislike to behold a capped hock, that, as long as any chance of its reduction remains, they are monstrously desirous to get rid of the deformity. I say, so long as appearances hold out any prospect of reduction, because, when the enlargement has continued long enough to have become callous and changed in structure, medicine ceases to have any effect upon it. Let the case, however, be never so recent and favourable, we prescribe in vain so long as the excitant of the evil continues in force. This, consequently, becomes our first solicitude; a branch of our subject which may very well be described under the heading of

PROPHYLACTIC TREATMENT.—In a recent case of distention of the cap, consisting as it does then simply of a collection of serous fluid, the abstraction of the cause will be sufficient to cure the disease. But let a horse who has given himself a capped hock through kicking in the stable continue his kicking practices night after night, and the contents of the pharmacy may be dispensed upon his ailment to no purpose. Once, however, removed into a situation where he will have no inducement to kick, or should he again kick where he can do himself no harm thereby, or else without removal be hindered from kicking, there will then be a probability of the enlargements of his caps either subsiding of their own accord, or being readily made or assisted so to do. Cases of capped hocks are frequently occurring in large studs and horse establishments, where the labour the horses have to perform is not a counterbalance to their high feeding and grooming, and especially where, as in our cavalry stables, bails, and iron ones, are made the economical (?) substitutes for stalled partitions. Under such circumstances as these, as every veterinary surgeon in the army can testify, capped hocks are not the least among the evils arising from the “bangs and blows” continually befalling horses in such prison-like and comfortless habitations.

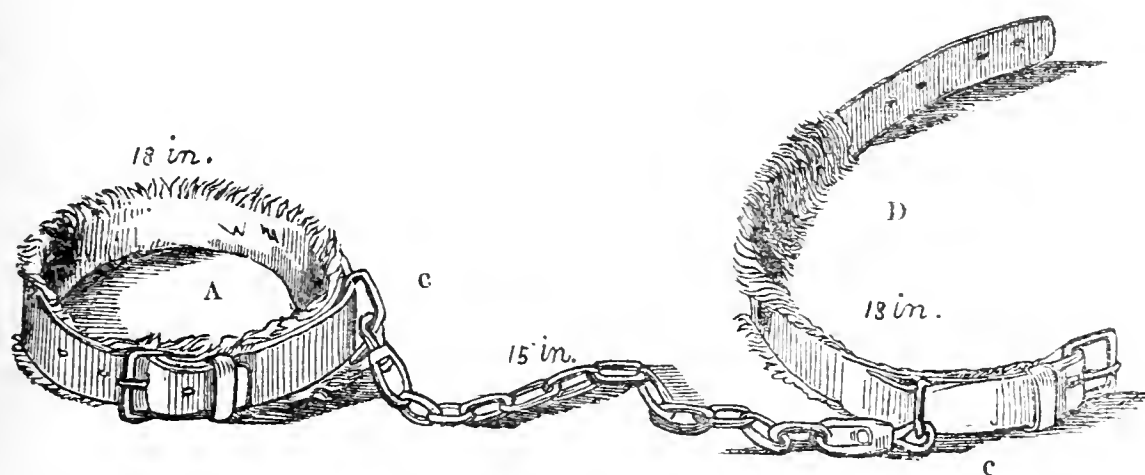
When, therefore, a horse is brought for treatment having a capped hock, the first thing to be attended to is the removal of the excit-

ing cause, so as effectually to prevent the repetition of the mischief. Supposing kicking in the stable to have produced it, and the heel-post of the stall to be the offending or rather the offensive body, either let the post be wrapt in some soft material—such as padding or hay-bands—which will save the limb from injury should the horse kick against it again, or else let his leg be so fettered that he is deprived of the power of kicking; or, should he manifest a propensity to kick on one side only, let him either be removed into a corner stall where his kicking member will be opposed to the wall, or let some furze be nailed against the offending side of the stall or stall-post, which will disincline him to renew the contest in that direction. Should the kicking appear to have excitement given to it through some play or disagreement with his neighbour in the adjoining stall, let one or the other horse be removed into a distant stall or another stable. In a bailed stable, a very simple contrivance has answered all the purpose of a furze or prickly thorn branch, without having the objections to which the prickles in such stables are subject. This consists in procuring a piece of coarse linen cloth, of an oblong shape, and dimensions regulated by the height of the bail from the ground—say four feet by three—and stitching it to the bail in such manner that it hangs down, as a swing partition-board would do, between the horses' standings. There is nothing, it is true, anywise resisting in this linen partition, and yet it is found to answer the purpose of an opposing body, insomuch as it has the effect of intimidating the animal from striking at it, for a time indeed of approaching it. This scare-crow sort of influence it might be thought would wear out; and to a certain degree no doubt it does so, and sooner, of course, in some instances than in others; still, the impression, from the probability of the kicking being renewed, will be likely to be revived from time to time, since the balk the act of kicking produces operates in refreshing the apprehension.

Should nothing by way of prevention we can devise for the stall have the desired effect, we must have recourse to means of shackling or fettering the limbs. In the choice of these—for several methods are in practice—we must be guided by the disposition and irritability of the kicker, lest the remedy turn out worse than the disease. A well-lined hobble-strap with six or eight inches of chain attached to it, buckled on immediately above the hock, so that the chain dangles down the leg, and strikes it every time the animal kicks, giving him “a Roland for his Oliver,” is a common and frequently an effectual contrivance to break the vicious habit. Should the chastisement it inflicts, whenever a kick is made, prove insufficient, a wooden log or iron weight may be appended to the chain. This failing having the desired effect, fettering both legs

together may be tried ; it being borne in mind, however—that I have just now begged attention to—that whatever the nature of the stop or impediment to kicking had recourse to, it must on no account be persisted in to the animal's detriment ; though it but very rarely occurs, under proper management, through gentle and gradual application—applying the shackles or fetters for some few days, at first, only during the day and at such hours as the groom is in the stable—that a horse cannot be brought to wear either shackles or fetters continually, by night as well as by day ; the latter, if not the former, being a complete hindrance to his kicking propensities.

THE PATTERN OF FETTERS I have found to answer best is shewn in the subjoined woodcut:—



Length of chain, including swivels, 15 inches.

A, hobble lined with soft material.

c, c, Swivels, to turn freely, to prevent kicking, or entanglement of the connecting chain.

D, Length of hobble when extended, 18 inches.

The fetters may be buckled on, either, above the hocks—in which case the connecting chain should be but 13 instead of 15 inches in length—or, what my experience has pointed out to me as the preferable place, around the pasterns (below the fetlocks), which is more coercive than the confining of the hocks ; added to which, an objection to the latter situation is that the hobbles in the course of time are apt to chafe the small of the thighs, and leave white marks upon them. With young or unbroken horses we must be more fastidious in our precautionary measures than we need be with others ; and in the case of any particular shyness or timidity, our first essay had better be restricted to a single hobble, without any appendage, buckled round the thigh, leg, or pastern, as seems most prudent ; proceeding afterwards by the steps already pointed out, until we succeed—should such be required—to the enduring of

the perfect fether. Cautious and prudential management, I may repeat, will rarely in the end fail of complete success.

MEDICAL TREATMENT. — It is hardly necessary to observe, after what has been prefaced, that no practitioner would think of entering on the medical treatment of capped hock until he had become satisfied that every liability to fresh injury had been removed; and when this is done, the success of treatment must entirely depend upon the state the diseased part is left in. So long as the case be recent, and consist of no more than the effusion of fluid, without any structural change of the cap, little else is required further than the abstraction of the cause to, in time, insure the subsidence of the enlargement. A dose of physic, fomentation, evaporating or refrigerant lotion, and walking exercise, will accelerate the reduction: withal however, do what we will, a capped hock will take some time in disappearing, and this period will be lengthened according to the character and magnitude of the enlargement. Instead of dallying with such a case as this, however, or throwing the horse out of work on account of it, the advisable plan of proceeding is, as soon as the horse has gone through his physicking, and that and the fomentation, &c. have carried off any existing inflammation, to return the horse to his work, treating the swelling during the while with perfrications night and morning with some iodine and mercurial or antimonial ointment. Supposing the application does but doubtful good, the hand-rubbing will, at all events, tend to promote absorption of the collected fluid.

If we make our minds up to carry matters farther than this, we may proceed to blistering the cap; and, in combination with purgative and diuretic medicine, and topical blood-letting so far as it can be practised, I do not know a more effectual disperser of the tumour. At the same time, there are few persons who would like to give up a workable horse so long as a sharp blister—the most effective one in the end—would require. On this account a sweating blister is commonly preferred; which ought to be sponged off as soon as it has elicited discharge, and the sponging repeated daily, and then a horse after a week may be taken to work again. Stimulating as a blister is, its application had better be suspended so long as any inflammatory disposition is continuing; and even then, when applied, it will be found at first to augment the tumour, and in some cases considerably. Physicking and fomentation—and blood-letting if necessary—will however soon again reduce it, and then will follow sensible and comparatively speedy diminution of the swollen cap.

PUNCTURATION OF THE CAP.—In the instance of any enormous enlargement of the cap, it may become advisable to give exit to the contained fluid; though, for my own part, I feel it my duty to say,

this is an operation which experience has taught me to defer to the latest possible period. I have had so many reasons for aversion to puncturing the distended cap, that nothing but sheer necessity now drives me to it. A very small (surgeon's) trocar is the best instrument to use for drawing off the fluid; and, first, an aperture should be made upon the *superior* side of the tumour, letting the inflammatory consequences from that subside before any attempt be made to make a similar perforation opposite to it, through the inferior parietes of the tumour. To prevent the upper orifice from closing, it may be probed daily, which will let off any collected fluid; and the inferior opening, after it is made, may for a time be served so likewise; and, when irritation has sufficiently subsided, a seton of some twisted silk may be run through the cavity of the cap. This will produce suppurative action, should it not have come on before; and after such action has become completely established, and is on the decline, the withdrawal of the seton will probably be followed by the granulative process, closing the apertures and obliterating the sac; leaving after all, however, more or less thickening and induration of the cap. This, at least, is the desired progress and termination of the case. Now and then, however, matters go on very differently. Inflammation and swelling to an alarming degree follow puncturation of the cap; the limb swells to a great size; constitutional irritation to a greater or less amount supervenes, and we begin to wish we had never operated. Some French veterinarians have, however, carried the practice much farther than this; they have ventured upon

THE INJECTION OF BURSAL SWELLINGS after having penetrated them.

A French surgeon—M. Velpeau, professor at La Charité—having practised with much success the injection of tincture of iodine, diluted, instead of solutions of zinc, in cases of hydrocele in man, M. Bouley (the younger), a French veterinarian of celebrity, resolved to give the same a trial in practice on horses having enlarged bursæ and joints. The latter, however, from woful failures, seeming to infer some sort of contradiction to the statements of the former, the Alfort College very properly took the affair up, with the determination, so far as veterinary practice went, of setting the question at rest. Accordingly, a horse having “a puffy tumour growing upon the outer side of the hollow of the hock, attended with some slight lameness,” who had been twice fired to no purpose, and who had now a similar tumour growing opposite to the former on the inner side of the hock, who in fact, as far as we can understand, exhibited an unusually large and inveterate thorough-pin, the diseased hock being altogether pretty well double its natural size, for it had the following operation per-

formed:—The horse being cast, a (small) trocar was plunged into the dependent part of the swelling. The withdrawal of the stilette was followed by profuse efflux of limpid synovia, both tumours being manipulated in order to completely empty them. This being done, three syringe-fuls of iodine mixture—one part tincture to three parts water—were injected, which proved barely sufficient to distend the sac as before. The injection was suffered to remain in three minutes, after which every pains were taken to squeeze all of it out. The horse walked to his stable lamer than before; and the pain and lameness increased, and slight fever ensued. Both fever and lameness, however, gradually abated, so that, after three weeks had elapsed, his owner being of opinion the animal was fit for work, took him away. Nothing was seen or heard of the patient for upwards of three months afterwards, when he was by special desire brought to the College for examination. So reduced was the diseased hock found, that no more than one-and-a-half inch remained between its measurement round and that of the healthy hock, notwithstanding the time had been when the former exceeded the latter by fourteen inches.

CASE II, however, although similar in its general character, proved, under like treatment, fatal. An entire cart-horse exhibited his near hock nearly double the size of the off, from the presence of a very large thorough-pin, which had been several times fired. The diseased hock measured twenty-two inches, the sound hock fifteen. The tumour is low (compared to the one in the former case), and there is accompanying it enormous distention of the capsule of the hock joint. Nevertheless, the subject being given up for experiment, the operation was proceeded with. The trocar was introduced, and a pint of synovia flowed out. The iodine injection was thrown in, and retained three minutes within the cavity. But the whole of it could not be made to pass out again, in consequence of albuminous matters, discovered to have become effused into the cavity, by, after the animal had risen, albuminous synovia flowing from the opening. Pains in the limb and fever followed; and on this supervened swelling, in particular of the hock joint, which at first fluctuated as though purulent matter was collected, and afterwards emitted a viscous colourless discharge containing pus globules. This went on to ulcerations appearing, and these gave vent in places to pseudo-membranous discharges from the joints, having spots upon them indicative of gangrene, which at length was found to have commenced within the joint, under the resorption of the ichor. And of gangrene, as was presumed, the animal at length sank.

The sacs of the thorough-pin were found inwardly rose-coloured and mammillated, the same as in a suppurative wound. Within

them was a yellowish-white soft matter, apparently albumen, coagulated by the alcoholic injection. They exhibited gangrenous spots, and had the characteristic fœtor. There was found a communication between the sacs and the hock joint of above an inch in diameter. The synovial membrane lining the hock joint presented the same aspect as the lining of the sacs. The middle protuberance of the tibia and the trochlea of the astragalus, which had a yellowish tint, had (from absorption) lost their cartilaginous coverings, the bones being bare and soft*.

An ingenious method of operating on encysted tumours—into which it is so desirable to prevent the ingress of air—was devised some years ago by Mr. Worgrove, a surgeon. Writing† on the treatment of what surgeons call “house-maid’s knee,” he directs, after the exhibition of a brisk purge, that an operation be performed on the dropsical tumour, as follows:—Make an incision one-eighth of an inch in length along the outer margin of the tumour; then introduce a very small bistoury obliquely into the cyst, at such a distance from the cutaneous incision as prevents the escape of any fluid. With the bistoury in the sac, scarify the interior in several places; then withdraw the instrument, and empty the cavity of its contents. Afterwards, apply a compress and bandage, so as to prevent the possibility of any influx of air. Whenever we entertain any thoughts of operating on bur-sal tumour in the horse, some such method of procedure appears to me safer than the common operation, and particularly when that is to be followed by injection, as well as quite as likely, in the end, to prove effectual.

REPORTS OF HORSE CAUSES.

By “RHESUS.”

Dear Sir,—EXCUSE this familiarity in my address; for, though personally unknown to you, through the medium of your writings I recognize in the Editor of THE VETERINARIAN, as it were, an old acquaintance. I have been long meditating an epistle to you on divers subjects, but inveterate indolence and an antipathy to the irksome toil of writing have hitherto overcome my feeble will. Your imprint, faithfully transcribed from *The Times*, of the Horse Cause “Hyde v. Davies,” determined me at once to pro-

* Fuller accounts of these two cases will be found in THE VETERINARIAN for 1847, vol. xx, p. 280-5.

† In “The Dublin Medical Press,” 26th September, 1842.

crastinate no longer; as I had reserved by me, but was too lazy to send it, a full and, to the best of my belief, an accurate narrative of the whole of the evidence and pleas in that interesting case. *The Times'* report, though free from any serious error, is nevertheless so *jejune*, so bald and uninformative, that I trust you will not refuse to repeat in detail what in your last was too compendiously chronicled. I fully concur with *Judex*, in your June Number, as to the slovenly and imperfect manner in which trials of this sort are reported, and lament that no sources are open to you of securing more precise accounts of them. The provincial papers, either of the neighbourhood where a cause is tried or of that where the parties to it reside, commonly exhibit more at large the specialties of all manner of suits whose interests are only local or their scope circumscribed, than do the metropolitan journals; and I would suggest that, on a topic which more peculiarly concerns the veterinary profession, one of its members—and doubtless there is one in every assize town—should make a point of transmitting to you a copy of that county paper which furnishes the most minute and circumstantial record of such trials. A considerate perusal of the trial in question, as reported in the *Hereford Times*, coupled with the lessons inculcated by the uniform issues of almost every horse cause that has fallen under my notice, gave rise to the following reflections:—That it is highly impolitic in the breeder to warrant any horse sold to a dealer for a sum approaching its full value, but that he should submit to any sacrifice of price rather than incur the risk of litigation; where the chances of establishing his own and his horses' integrity in the eyes, it may be, of a parcel of tailors, are so notoriously adverse to the vendor, that the testimony of men whose names have conferred a dignity on their profession to which it could not otherwise have attained—men who rescued it from the opprobrium of quackery and empiricism, who have bestowed on it a literature which at once elevates themselves to the position of gentlemen and scholars (and in one instance, at least, I refer to the gentle and amiable Youatt, illustrates a rare association of the most estimable qualities in a surgeon—energetic practice combined with compassionate humanity—graphic symptomatology with severest truth), and gives to the science they pursue co-ordinate rank with the other liberal professions; that the evidence, I say, of these ornaments of their calling is, by the sworn twelve, put on a par with, nay, postponed to the big-mouthed vapouring and malicious detraction that evermore characterize its obscurest and most ignorant members.

I remain,

Your's faithfully.

Leominster, 14th July, 1849.

* * We thank "Rhesus" for this first mark of his attention : now that we are become somewhat better acquainted, we trust it will not be the last. Another kind friend had already sent us the (same) provincial account of the trial in question, of which we have availed ourselves in the proper place, by reprinting so much of the cause as is more particularly interesting to veterinary men. We wish, with Rhesus, we could *always* calculate on receiving the fullest reports of the professional evidence cited in trials for soundness and warranty. At the same time we must not complain, for we possess more considerate friends in this respect than we had formerly ; nor are we without hope that, through their kindness and our own exertions, the day may arrive when we shall be independent of the short and imperfect accounts of provincial horse causes in general contained in the London papers.—ED. VET.

VIRTUES OF HYDROCYANIC ACID.

By Mr. RELPH, V.S., Sebergham.

To the Editor of "The Veterinarian."

Sir,—OF the many additions to the veterinary materia medica, hydrocyanic acid is not the least valuable ; but its proneness to decomposition is a great objection to its use. By adopting Mr. Morton's formula this objection may be lessened ; and, to facilitate the attainment of more permanency, I apprehend the substitution of the cyanuret of potassium merits attention. I have used it as a sedative in gastritis and enteritis, and various diseases where antimonials, &c., are inadmissible, apparently with much benefit. The following is my formula :—

Take cyanuret. potassæ.....	x grs.
ol. lini.....	℥iij
aquæ	℥v

Dissolve the salt in the water, in a bottle ; add the oil, and agitate. A saponaceous mixture is readily formed, which when kept well corked, and has become cold, appears to retain the properties of the prussic acid for many weeks.

As one grain of the cyanuret is equal to fifteen drops of the medical prussic acid, the dose of the above mixture can be easily determined.

Your most obedient servant.

MR. GLOAG'S EXPERIMENTS ON HORSES' FEET.

By J. T. HODGSON.

To the Editor of "The Veterinarian."

Sir,—MY attention has been attracted to a series of original and very instructing experiments on horses' feet by Mr. Gloag, the object of which appears to me not in the least an attack on the physiologists, being, as he is by these experiments, a distinguished one himself, but rather actuated by a praiseworthy desire to carry out in practice that physiology we have been taught in our public school, and which we all acknowledge, as far as Mr. Gloag's experiments go, to remain intact.

The first of the series goes to prove that there is no expansion of the horse's foot, either unshod or shod; but it should have been considered, that there is no such thing as *lateral* expansion, as action of the horse's hoof, which is a *combined action not easily imitated*, which is lost or exhausted anteriorly by the production of thickness of the crust in growth, the only remaining action being downwards and backwards, and, of course, *outwards*, but not *laterally*, by the slight depression of the thinnest part of the sole near the point of the frog, depression at any other part being quite impossible. Now, it was Mr. B. Clark's looking for lateral expansion, and trying to carry out the same by the hinge shoe, that has caused much misunderstanding on this subject: physiologically, he understood the action of the hoof; but this widening of the foot is not what, in many cases, has to be carried out in practice, but just the contrary. There are some feet which neither nails, clips, the concave upper surface of the shoe, nor curving the shoe at the toe, can do injury to: these practices tend rather to benefit such feet. How are we, therefore, to understand practical men, whether veterinarians or farriers, when they propose to shoe horses on the "expansion principle," as applicable to light horses only?—if so, it is a fallacy.

Mr. Gloag's experiments are irrefutable. First, that there is *no expansion laterally*; secondly, that the action of the hoof is that of the "spring;" and, what is more, he has *proved both by the ordinary practices of shoeing*. The no action when the heels of the hoof are in juxta-position with the heels of the shoe, when the foot is raised from or put on the ground; and the action when the smith "springs," in certain cases, the heels of the shoes: here, then, is the substance of all we have been endeavouring to obtain in practice for years; and yet practical men do not ordinarily admit

it. Mr. Gloag has, therefore, done this essential service (independently of what he has kindly done as a physiologist), he has placed practical men in a dilemma, out of which they cannot get : they must now carry out the latter practice in ordinary shoeing, or deny the physiology ; for the practice of paring the sole to obtain a "spring," and then binding the said spring up again by placing the heels of the hoof in juxta-position with the heels of the shoe when the foot is raised from the ground, is not carrying out the principles of shoeing horses, as derived from the physiology of the foot, namely, that of "springs," when put on the ground. As physiologists, it is really a matter of indifference to us whether it is carried out or not ; but as practical men—and we are to all intents and purposes the directors of shoeing smiths—it is our duty to the public whenever these matters come under our controul, to see that these principles are carried out ; and it is by the example of eminent veterinary practitioners only, and by their influence on their workmen, that so desirable an object as that proved by Mr. Gloag's experiments to be correct, can be accomplished. Mr. Gloag, depend upon it, has not done with the subject ; and it behoves practical men to observe carefully the results, without any bias from preconceived notions, which will not avail against one who uses the *screw*. Such kind of experiments are entirely his own.

Mr. B. Clark and myself went for inquiry to the natural foot. Mr. Gloag, gentlemen, has proceeded logically to work, and stands out unanswered and unanswerable. This may, at present, happen from a supineness on the subject of shoeing horses ; but, to use the words of an introductory lecture of one whom some of us have heard, "to be considered to have knowledge of your profession is almost the only rank we can attain." Is the veterinary practitioner to be thus shewn, by the custom of the shoeing smiths in certain cases, the true principles of shoeing, and yet not carry these out in ordinary practice ? It is not for me to answer. I am one only, among many of the profession, whose lot in life is to carry it out in other countries. Mr. Gloag has very praiseworthily shewn you, that it is your own interest to carry it out also in England.

Mr. Gloag could not be aware of any experiments of mine, for I never detailed any : he is one of yourselves, a practical man, and from whose experiments the proprietors of horses will, I make no doubt, through the profession, ultimately derive advantage by the action of the hoof being carried out in shoeing every horse. It is not only light horses, but heavy horses also, whose feet are destroyed by want of the use of the "spring," which is not prevented by any thing but *custom* : do away with this, and the public will derive immediate benefit ; and in a few years, when the horses at present lame *from ordinary shoeing* are worked up,

you will hear no more of permanent lameness of the fore feet of horses. Such have been the results of my experience with Arabians even, supposed to be most predisposed by caste; and I feel grateful to Mr. Gloag that he has, by his satisfactory experiments, given me an opportunity of again recording it, trusting that Mr. Gloag's next experiments will further elucidate this subject.

The action of the hoof in the unshod state does not appear to have been the object of Mr. Gloag's experiments; but the difference in the action of the foot under the different circumstances of ordinary shoeing, i. e. with the heels of the hoof in juxtaposition with the heels of the shoe, when the foot is raised from the ground, and that, when it is not the case, by the smith springing the heels of the shoe; and what is attempted to be proved is, that the former is inconsistent with, and the latter consonant to, the physiology of the foot. No matter by whom the physiology (and many have assisted) has been elucidated.

Professor Coleman's practices of shoeing always agreed with his doctrine of the physiology of the foot. He said, "If one shoe is to do for all horses, it should be the bar shoe; but it only having been used in certain states of the feet, the public will not allow of it in ordinary shoeing." The public, therefore, forced on him and his students, the paring of the sole to give *artificial* spring to the hoof, instead of the shoe, as *dernier* resort; and if they were to complain of having lame horses from the ordinary practice of shoeing—and it is from no other cause—to the end of time, veterinarians are not in the least to blame. Shoeing smiths must release themselves from the thralldom of custom, which only it is, of laying the heels of the shoe (whatever may be the form of its upper surface) against the heels of the hoof, when the foot is raised from the ground, and lame horses will be as uncommon as in other countries, for the pace is only an occasional cause.

Mr. Gloag begins the first experiment on the unshod foot; but the state of the lowest circumference of the hoof is not mentioned, and there are several natural states of wear which should have been noticed; besides, the governing principle of the action of the hoof, position, although alluded to by Mr. Gloag in his observations on the 24th experiment, is not stated, though, no doubt, it was not overlooked; but it renders the experiments less explanatory, though to me they are perfectly satisfactory.

Mr. Percivall, in his excellent paper in *THE VETERINARIAN*, on the Conformation of the Horse, writes thus:—"Still, that proportion has to do with power, strength, and action—and much to do with them—I admit; but then it must be taken in a relative sense and as depending upon more than meets the eye, therefore cannot well be subjected to any precise rule and measure: amongst

its relations stands first and foremost, *Position* : of which, indeed, such is the importance, that I would almost say it lays claim to equivalent consideration. Of what value is the most beautifully proportioned limb, to the eye even, much less in point of utility, whose different parts are set in awkward or unnatural position? The head may be its proper length and breadth, and so likewise may be the neck; but of what avail is all this unless these parts are properly and advantageously conjoined? Position intrudes upon us while we are measuring the limb; and, in despite of every consideration we can give it, after all, turns out such a wayward and intractable thing to deal with, that we cannot anywise fashion it in our scale of dimensions." "These authors have placed more weight and importance on their 'scales of proportions' than they seem to be deserving of; and have, in attending so much to their geometrical admeasurement, neglected, or at least disregarded, that necessary and indispensable concomitant of proportion, *position*, by which, of course, I mean relative position."

The same remarks are applicable to the foot of the horse, both in the unshod and shod state; the states of the hoof, or last "spring" of the foot, depending almost entirely on position. Now it is too much, perhaps, to expect a knowledge of the conformation of the horse in the shoeing smith, seeing that educated veterinarians acquire it with difficulty by "dint of observation," assisted by their anatomical knowledge: yet the shoeing of horses well depends much upon a knowledge of predisposition. The shoeing smith does not go beyond "dint of observation" of the hoof, by which he should be able to tell the conformation of the horse, although body and limbs were enveloped in clothing, knee-caps, and boots. Again: by seeing the horse only, and not the feet, he would be able to say what kind of feet the horse has, the mode of shoeing, &c. The veterinarian, as a physiologist, may, like the engineer, lay down and draw out the rules; the workmen, whether it is a horse or locomotive, have the carrying of these out. Begrimed with soot, perhaps, he is not—at least, should not be, as vulgarly supposed—an ignorant man: he is the able coadjutor without whom the man of talent cannot carry out his plans; left to themselves, as they must of necessity be, in most practical cases they require *their* knowledge, upon which the safety of one's life may depend. Crippled by the ordinary practice of shoeing, the riding or driving of such horses is unsafe; the working up of horses, in a financial point of view, is a direct loss to the public, the per centage of which cannot well be estimated; and this, too, by persisting in the custom of parallel plane shoeing both at toe and heels. The physiologist has failed to impress that on the public attention, because his studies are removed from public view.

Mr. Gloag has judiciously forced it by direct experiments; and by these is gone for ever the theory and practice of *lateral* expansion of the horse's hoof; and parallel plane shoeing is *squeezed* enough.

Mr. Coleman in his Lectures invariably referred to predisposition from conformation, and also to position—particularly to the relative position—of the leg and foot; the position of the foot, also, in his directions for the applications of different kinds of shoes necessary for different horses. His students only know this, and not the proprietors of horses, who still think “that one kind of shoeing should do for all horses.” Veterinary surgeons are a very small minority of persons engaged in directing the practice of shoeing horses; improvement in which cannot, by their means only, extend over so large a majority of shoeing smiths: through the pages of your Journal much, however, may be accomplished, if the subject were to be taken up by practical men capable of affording information.

The French veterinarians study both conformation and position, and attempt to carry out in practice their views; *vide* the “adjusture,” the “aplomb of the limb,” the “curve of the toe and heels;” but whether it is a custom with them also to “spring the heels” I cannot say, though some other Correspondent may be able to inform us.

Stable treatment only has influence on the feet of horses deprived, in the unshod state, or by ordinary shoeing, of the action of the hoof, as proved by the treatment of the feet of horses in tropical climates with the Asiatic mode of shoeing.

REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

CRUELTY TO ANIMALS: *a Sermon on the Responsibility of Man in respect to the Brute Creation.* By the Rev. GEO. PETTITT, Missionary in the Diocese of Madras, and Curate of St. Philip's, Birmingham. Pamphlet, 8vo, pp. 20. Groombridge, London.

“YOU are doubtless aware that a gentleman in this part of the country—Thomas Ingram, Esq., of Picknell, near Bewdley—whose tender-hearted benevolence deserves to be had in perpetual remembrance, made an arrangement, by a clause in his will, that

the duty of kindness to animals should be brought before the people of this town and neighbourhood from several pulpits every year. The executors of his will have this year requested me to undertake this pleasing task, and, by the kind concurrence of your minister, I am permitted to bring the subject before you."

Such is the opening explanatory paragraph of a Sermon which, some time ago, was kindly sent us by our excellent professional brother, Mr. Godwin, Veterinary Surgeon of Birmingham, and which ought to have been, and would have been, noticed before now, had not our pages been crowded with matters to which we were compelled to give precedence; not, we would add, because they in our mind were of more weight, but because, being written expressly for our pages, or having reference to events or concerns of the day, matters of standard and permanent import, such as the one now before us, were forced and could well afford to give place to such ephemera. As advocates for humanity to the brute creation, and denouncers of all contrary practices, veterinarians ought not, nor do they, we should hope, play second to any class of persons. To beings through whose ailments they get their livelihoods, whose structure and economy they are believed with that view to have well studied, and with whose dispositions and propensities they are supposed to be better acquainted than other people, for veterinary surgeons to behave with any unseemingly humanity—nay! otherwise, indeed, than kind—would be flagrantly flying in the face of their professions. They profess to soothe, not to irritate—to heal, not to make sores. The very institution of the veterinary art is an act of signal humanity to brute-kind; and he who carries its practice into most efficient ends is one of the best members of the "Animal's Friend Society."

That kind-hearted bequests, such as the one before us, contribute to this good cause by—through the persuasive and benignant oratory of the pulpit—softening man's heart, and disposing it, in gratitude and duty, charitably and mercifully towards our brute servants, we have every reason to believe and to hope; and we see no good reason why, on occasions, moral lessons inculcating this Christian obligation should not be read by our divine teachers. At the same time, we are full of apprehension that, were the matter to be left entirely in hands so well intentioned, the object would to

a great extent fail for want of such lessons reaching, or too feebly sounding in the ears of those known to be, in all that respects humanity to the lower animals, the greatest delinquents: hence the necessity of carrying out divine laws by the institution of human ones. Where the exhortations and admonitions of the clergyman fail to persuade, or impress, or restrain, the magistrate steps in armed with the irresistible power of the law; and Englishmen may boast that, however much cruelty may, under the names of "sport" or "diversion," have been practised upon man's too willing slaves, yet has legislative enactment done, and still is doing, all in its power to repress it, by the imposition of pains and penalties upon its perpetrators. How far the subject is fit and proper for the pulpit Mr. Pettitt will best inform us:—

"There is no duty of man, and there are no circumstances capable of furnishing him with the opportunity of exhibiting Christian principles and virtues in opposition to the wickedness that springs from our fallen nature, which may not be advantageously discussed by the Minister of Christ. And it is the glory of the Gospel that, while it reveals to man doctrines so sublime and facts so astounding that even angels regard them with admiration, it descends also to the daily business of human life, directs us in the discharge of our meanest duties, and aims at sanctifying every action and every feeling to the service and the glory of God. Not unfrequently, too, it pleases God to reach the hearts and consciences of careless and ungodly men, by subjects in themselves of inferior importance, such as that before us, when more sublime and momentous subjects have failed to produce their due effect."

Every relation between man and the animal creation impresses us with the divine injunction, that man was created "lord and master of the brute species," and that he, as a ruling agent, is responsible for the power delegated to him. Divine precept here, as in so many other obvious instances, teaches no more than Nature on every side responds to. The power, tacitly acknowledged by the Truth, is openly exercised by man; and if man exercises it in a tyrannous or cruel manner, not only is such practice expressly contrary to the example set him, and the lessons taught him by his Divine Master, but it is such as Nature herself rebels against; and so is exceeding apt to defeat its own purpose. All experience teaches that a great deal more is to be accomplished with animals by fond than by harsh usage—that nature is often to be mollified

and subdued by kind treatment when the reverse would only have elicited an evil return, and made those propensities naturally bad a great deal worse. In the horse species this is every day rendered so striking and obvious that it hardly needs, so far as this animal is concerned—and he, after all, is concerned the most—we repeat, it hardly needs an example: one in illustration, however, we cannot refrain from giving here; one that, although it occurred many years ago, remains so vividly impressed upon our mind that even at the moment we are writing it seems as fresh as ever in our recollection.

Among the number of horses recruited annually for the service of the Artillery, in the time of the war in the Peninsula, was one in particular who turned out so unconquerably vicious that no rod or torture the rough-rider had in store for such offenders as himself could bend or break his haughty and fiery temper. From a trick he had of either running his rider against some wall or paling, and so crushing his leg, or, that failing, of lying down and rolling upon him, no man at length durst mount him at all. By way of substitute, the image of a man was made, by stuffing a soldier's apparel with straw, and that set upon his back. At length, after long and fruitless trials of enforcing obedience, the animal was given up as "incurably vicious," to be cast out of the service and sold by auction. Colonel Quist, the *maître de manège* of that day of the Ordnance, hearing of all this, requested that the horse, instead of being sold, might be transferred over to his troop. This was done; and no sooner done, than a plan of treatment, directly the contrary of that to which the animal had been so long and so uselessly subjected, was adopted by the Colonel, a most humane kind-hearted person. Six months had not passed before truly wonderful changes were observed in the vicious horse. He not only carried his rider, the Colonel, with complacency and good humour, but actually went down upon his knees, on certain signs being given him, as though in gratitude to his master, for him to mount and to dismount. And ever after he went, as being the most beloved horse of the Colonel's numerous stud, by the name of "The Darling." This narrative, to the full, bears out the truthful observation of Mr. Pettitt, that

"There can be no doubt whatever that merciful and kind treatment towards the brute creation is demanded of us by the Christ-

ian faith, and that cruelty and unkindness are altogether opposed to its mild and beneficent spirit."

And let us, with the excellent preacher before us, who has taken up the animal cause with so much affection of spirit and warmth of devotion—let us, we say,

* * * * * "entertain and cultivate a kind and merciful spirit towards the brutes that perish, whether our own or those of others placed under our care, *because they perish**. In *our* suffering and miseries we are sustained and cheered by the hope of happiness in another world, which will compensate for the sorrows of this. *We* can look to a Heavenly Father, and, committing our souls and our troubles to Him in faith, anticipate that present evil will work out future good. But the beasts that perish have no such hope, no such anticipation to cheer them under suffering and misery: they can look only to man for sympathy and kindness. We are in the place of God to them; we are the highest order of beings of which they are conscious, and their destiny is in our hands. Shall they, then, look to us in vain? Shall the imploring eye entreat our mercy and find none, and perhaps meet only harshness and punishment in reply? For *their* sake, therefore, for *our own* sake, and, above all, *for God's sake*, let us understand, let us recognize, let us labour to fulfil that duty which we owe, that responsibility which we sustain, towards the animal creation placed under our charge in the providence of God."

VETERINARY JURISPRUDENCE.

LIVERPOOL ASSIZES—MARCH 1849.

Hyde v. Davies.

(Before Mr. Justice Coleridge.)

[A more correct and amplified account than is contained in our last No.]

THIS was an action brought by the plaintiff, Mr. J. Hyde, a horse-dealer, residing at Liverpool, against Mr. P. Davies, a farmer residing at Stourton Court Farm, in this county, to recover £62, the price of a horse purchased of, and warranted by, the defendant,

* The author has no wish to pronounce against the opinion ably maintained, and practically enforced by some, that animals have souls. For even if it be so, the argument here used would lose none of its force; unless, indeed, it can be shewn that animals are *conscious of a future life*, and sustained by the hope which it inspires.

and £21..3s. the payment of expenses which the plaintiff had made and incurred in consequence of the horse's unsoundness and death.

From the evidence it appeared, that the plaintiff bought the horse, then five years old, of the defendant, on the 23d of August 1848, for £62; that he was delivered the next day; that two hours afterwards the plaintiff's groom, who received him, perceived that he coughed and refused part of his feed; that in leading him on the road home afterwards "he did nothing but cough;" that after going twenty-one miles he again refused his corn; that next day he was led twenty-six miles, and in his journey coughed, and at the end of it again refused his food; that he was then put on the railway to be brought his last stage homeward; that on his arrival he still coughed and ate but sparingly; and in consequence for four or five days did no work, but had walking exercise.

[The bulk of the evidence is veterinary; and since this supplies the fullest facts of the case, and is solely interesting to us in a professional point of view, it is not our intention to give any other. The plaintiff obtained a verdict on the first count, the recovery of the price of the horse, £62; but was refused one on the second count, for £23 for expenses incurred.—ED. VET.]

Thomas Procter deposed: am a veterinary surgeon practising at Liverpool, and an assistant to Mr. Ellis: on the 1st of Sept. last was at the plaintiff's stables; was attending a chestnut horse for inflammation in the throat; the chestnut horse was kept in a stable on the opposite side of the yard to the stable in which the bay horse was kept; had his attention called to the bay horse, the subject of this action, and looked at it; thought he had a slight cold; it is very common for young horses to have such a cold: recommended stimulating his throat and giving him a mash; next heard of the horse being dead on the 4th of October; was at Bristol on the 5th of October; a *post-mortem* examination had been made by Mr. Kent; saw the lungs at Mr. Kent's; the right lung was much hepatised, with a great number of tubercles; hepatised means that the lungs must have become like liver; the disease must have been of from two to three months' duration; did not see the liver; has had an extensive practice in cases of diseased lungs; this disease is not always easy of detection; did not see the carcass; has known a horse to keep up his condition and appearance, although the lungs were diseased.

Cross-examined by Mr. Martin, Q.C.—First saw the horse early in Sept.; saw the lung at Bristol on the 5th of October; the horse's coat was very good in Sept.; he appeared then to be a perfectly

sound horse; there was no disease in the plaintiff's stables then; the chestnut horse had a sore throat, but of a more aggravated description than this horse; there was a slight irritation in the upper part of the throat, a common result after travelling; he was in good condition, and looking well; Clarke did not mention his coughing on the road to Liverpool; he said it had a bad cough. Ellis saw the horse the day after; the causes of disease of the lungs are exposure to heat and cold; the more frequent cause is a change from a cool to a hot stable; horses generally cough from travelling; acute inflammation of the lungs is easily observed; the coat is very staring; chronic and acute inflammation are alike in this respect; inflammation affects the coat or skin immediately; the duration of the disease is always long before tubercles of the size found in this horse could be formed; the duration of the disease is always long in the slow, chronic form; in acute inflammation of the lungs has seen death ensue in forty-eight hours; they are then broken up; an inexperienced person would imagine that the disease had continued for a length of time; such an appearance would prove a long-standing disease; in acute inflammation of the lungs there would not be a cough; in chronic inflammation, invariably.

Re-examined by Mr. Sergeant Wilkins.—The appearance of the lungs would account for the cough; the disease is analogous to consumption in the human subject; the disease alternates very much; on some days the horse assumes a very lively air, and his coat is fine, and on other days the horse is very much depressed; in acute inflammation the lungs are always broken up; the lower portion of the lung was very much covered with tubercles. The disease must have existed from two to three months; it is scarcely possible that tubercles so large could be formed in so short a time.

John Ellis deposed.—Is a veterinary surgeon, in practice at Liverpool. In the beginning of September last was in Hyde's stables; his attention was directed to the bay gelding in question; he appeared to have a cold; his attention was not directed to the lungs; ordered medicine and a mash diet; thought there was an irritation at the top of the throat; disease in the lungs and liver sometimes remains in a passive state; has heard the description the last witness gave of the lungs; it would produce a cough in the chronic form; there would be fœtor from the breath; gentle exercise would not prevent the horse from maintaining his condition, in spite of disease of the lungs. Procter shewed him a portion of the lung; it had the appearance of liver, and in a portion of it were abscesses containing cheesy matter. The disease must have been seated for months. The horse was kept by the plaintiff in a

good stable and temperature. Ordinary cost of a horse at livery is £1.1s. per week; his charge for medical attendance is £6.6s., on the 1st and 2d of September.

Cross-examined by Mr. Martin.—Has a book in which he makes entries of attendances; there is an entry of his attendances, but the charge is not carried out; has not been paid his charge by the plaintiff; the lung was hepatized; there were many abscesses in it, and it was decomposed; did not tell the plaintiff there was cheesy matter in them; the portion of the lung shewn him by Proctor was about 1 lb in weight; two or three of the plaintiff's horses had coughs at this time—a chestnut particularly; a bay or brown horse had a cold; he was returned as a whistler. Chronic inflammation would produce a cough; trotting would cause a cough, if that disease existed; so would breaking into harness or driving in a gig; it would cause the skin to be rough and staring; chronic disease is never of short duration: inflammation comes on very suddenly, and occasionally causes a very sudden death; in acute inflammation the breathing is laborious; it is then advisable to let blood; deaths may ensue very suddenly; chronic inflammation is a disorganized state of the lungs; the lungs, in life, are light, and would float in water; in the horse in question they would sink in water; the appearance they presented could not be the result of any but long inflammation.

Samuel Hicks Withers.—Is a horse-dealer and veterinary surgeon at Bristol. On the 26th of September last was at Howden fair; purchased the bay gelding for £60 of the plaintiff, who warranted him sound; made a cursory examination of the horse; did not examine the horse the same as if he had no warranty; took the horse to Bristol by rail; the horse was treated with care on the journey; put a rug and a night cap on him: the horse was in good condition; on the change of carriages at Gloucester witness observed the horse coughed; gave the horse at Bristol to one of his men; the horse was put in and dressed in his stable; he coughed then; on the following morning he coughed, and his coat stared; did not send for Mr. Kent until the horse was dead; did not work the horse, but treated it as an invalid; in four or five days after his arrival there were dangerous symptoms; the horse died on the 1st of October. Sent for Mr. Kent on Sunday; Kent came on Monday, and in his presence made a post-mortem examination; received back £60 for the horse from the plaintiff, £7.10s. for his expenses, and £4.4s. for law expenses.

Cross-examined by Mr. Martin.—The plaintiff paid me yesterday.

By Mr. Martin.—Then you qualified yourself yesterday to come here as a witness to-day?

Howden is about 210 miles from Bristol; never said he heard the horse cough as he was led from the terminus to the stables.

A letter addressed to the plaintiff was then put into witness's hands, which he admitted to be in his handwriting. The following is an extract:—

“*Bristol, 20th October, 1848.*”

“Sir,—I regret to inform you the bay gelding I bought of you at Howden died yesterday, and from the certificate inclosed it is very evident he was unsound previous to my purchase; he coughed when my man was bringing him from the terminus to my stables, and I observed on the following day (which escaped me before) that his throat had been blistered.”

The horse coughed first at Gloucester; it is so usual to hear a horse cough after travelling that it made no impression on him; observed the blister on the following day; struck the horse on the flank at Howden fair; roaring comes from the throat; should not have detected the disease by striking the horse on the flank; he was a good coated horse; began to be alarmed about the horse in two or three days after his arrival; had no notion that the lungs were wrong until two or three days before his death; his coat stared; I thought his illness was in the throat; knew two days before his death he must have chronic disease of the lungs; treated him accordingly, and gave him the usual medicines.

Re-examined by Mr. Sergeant Wilkins.—There were no symptoms of acute inflammation.

Mr. John Kent examined.—Is a veterinary surgeon at Bristol; made a *post-mortem* examination of the bay gelding on the 2d of October last; found the liver hardened and of rather a pale colour; it weighed 38lbs; the weight of a healthy liver would be about 15lbs; it was a disease of itself; disease in the liver must have been in existence for twelve months, probably much longer; the horse was fat enough; the right lung was hepatised with vomicae, vessels that have been filled with cheesy or curdy matter; some of the tubercles were in clusters—others were spread thinner over the surface with cheesy matter; one-third part of the lungs was so affected; the lower part, next the breast bone; the left lung was hepatised, or liver-like, to a much smaller degree, with a few scattered tubercles; the cause of the disease must have been a slight inflammation in the first place, occasioned either by influenza, strangles, or a common cold; from that inflammation a portion of the lungs became hepatised; inflammation then ceased; it always does in such cases; on a fresh attack of inflammation the hepatisation would increase; there might be then a considerable cessation of inflammation for a long time; on taking a fresh cold the hepatisation would still increase, tubercles would then be formed in the hardened substance; inflammation might then disappear, and the animal appear well for years; the lungs of the bay gelding had,

in all probability, been diseased for a twelvemonth, certainly for months; has known instances of horses working a long time in such a state; the hardening of the lungs is the cause of thick wind; the appearances he saw in the lungs of the bay horse could not have been the result of acute inflammation.

Cross-examined by Mr. Martin.—The horse died of slight inflammation of the lungs and the mucous membrane of the bowels; if he had no tubercles in the lungs he would not have died; (addressing Mr. Martin) “I deny the authority of the book in your hand;” (“The Horse,” published by the Useful Knowledge Society, and written by Mr. Youatt); “it was written by a man who made books to get his bread;” considered no writer on veterinary surgery an authority; does not look to books as authorities; what he speaks of are tubercles, vomicæ, and induration—not inflammation; Professor Dick is an authority; attributes the death in part to the liver; the coat in such a case might be as sleek as in other horses; the inflamed bowels called the lungs into action, and that killed him; inflammation causes the coat to stare; when it ceases, the coat will be sleek again; a horse may have diseased lungs, and not cough; a horse with lungs so far diseased would cough; as soon as inflammation begins the horse will cough; does not think the evidence of Mr. Procter or Mr. Ellis of much authority; “neither Mr. Procter or you (addressing Mr. Martin) know what you are talking about; you got Procter and Ellis to talk of inflammation, which had nothing to do with it;” in his judgment their evidence is unworthy of attention; “they mistook you;” they mistook the case; Procter only saw a part of the lung, and he confounded hepatisation and vomicæ with inflammation.

Re-examined by Mr. Sergeant Wilkins.—There are writers on veterinary surgery whose opinion he respects; thinks J. W. Mayhew’s opinion entitled to respect, and Professor Spooner a capable man; forms his opinion from his own personal experience, not from books: Youatt spent his life in the closet, and saw no horse; has attended to horses for thirty-six years; when the lungs were in the state described, the liver, from its great weight and size, would press against the lungs, stop his breath, and cause death; has known horses die suddenly from inflammation of the lungs, when in exercise: lungs were in the same state as these, only not so bad: a horse may die of diseased lungs, and at the same time be very fat and in good condition.

Mr. Martin, on the part of the defendant, then very ably addressed the jury, informing them that he should be enabled to call before them witnesses who would give the horse’s history from the time he was purchased a yearling until he was sold to the

plaintiff, and who would tell them that the horse had always been remarkably healthy—free from cough, and all other disease; and he would then call before them one of the most eminent professors of the veterinary art in the United Kingdom—Professor Dick, of Edinburgh—who would inform them that, from the appearance of the lungs as described by Mr. Kent, the horse could not have lived a fortnight from the commencement of the disease.

Mr. William Dick, examined by Mr. Martin.—Is a Professor at the Veterinary College, Edinburgh; has been lecturer in that college for thirty-two years, and has followed the profession since 1817; diseases of the lungs have frequently come under his notice, they are of very frequent occurrence; the causes of this disease are sudden changes of temperature, particularly from pure cold air to a close confined stable; more especially in the case of the prevalence of particular winds; the disease is commonly ushered in by a cough; there is very commonly a slight shivering in the earlier stages; it always affects the coat; the coat stares and seems unthrifty: the breathing is always more or less affected; there is no smell until the disease is far advanced, until a day or two before death; the pulse is always more or less affected; the horse is feverish; it is quite the reverse of the fact that horses are fat and sleek when affected by inflammation of the lungs; collects from the evidence of the plaintiff's witnesses that the lungs have become hepatised, and that there were tubercles and abscesses in them; the tubercle is the earlier, the abscess is the latter form: if the lungs are much diseased, there is an interruption of the circulation of the blood and a consequent inflammation of the liver; hepatisation may come on very rapidly and it may follow from inflammation of any other part; inflammation swells the blood-vessels beyond their natural size, and there is then an infiltration of serum and lymph, which clogs up the air-cells of the lungs and renders them solid and impervious to air; it takes place more rapidly in the lungs than anywhere else on account of their extreme vascularity; in some cases the operation of this disease is very speedy; has heard the description of the lungs in the present case; it seldom happens that both of the lungs are equally affected; when infiltration has taken place to the extent of hepatisation, there is an invariable tendency to produce tubercles and abscesses; and, according to all his experience, the disease commonly runs its course in from ten days to a fortnight; it depends very much upon the treatment; from the state of the mucous membrane of the bowels, believes the horse must have been purged, and death would then ensue more rapidly; in his judgment, the disease in the bay gelding must have originated in from ten days to a fortnight

before his death; the hepatisation, tubercles, and abscesses, must all have been produced within that period; if any disease had existed at the time the horse was ridden, or in draught, it must have exhibited itself; watching the flank of the horse would test roaring, and also whether there was disease of the lungs and liver; the horse being brought to Liverpool, as it was, might occasion a cold.

The Professor was cross-examined at considerable length by Mr. Sergeant Wilkins, without any result.

Walter Scott Butler, examined by Mr. Atherton.—Is a veterinary surgeon, in practice at Kington; graduated at the Veterinary College, Edinburgh, and afterwards at the Veterinary College, Camden Town; has been in practice about ten years; knows the defendant; rode to Brampton Brian fair on the 22d June last; overtook the defendant, leading the bay gelding; rode along with him about two miles: observed the horse's condition and appearance; he was very fast, and fine in his coat; was of opinion that the horse was then perfectly sound, and in good health; the hepatisation, tubercles, and abscesses, might all arise from a disease of very short duration; is of opinion that the disease of which the horse died originated in from ten days to a fortnight; has known a similar appearance of the liver in such cases; if the disease had existed on the 23d of August, the horse could not have exhibited the appearance and condition he then did; his coat would have been rough and staring; he would have been poor in condition; the appetite would have been affected and deficient.

Cross-examined by Mr. Sergeant Wilkins.—Has made many *post-mortem* examinations at Edinburgh, and in Herefordshire.

Evers Musgrave, examined by Mr. Martin.—Is a veterinary surgeon, in practice at Hereford; graduated at the Veterinary College, in London, in 1839; has since practised at Hereford; the horse would certainly have exhibited disease while in exercise, if the disease existed; the disease would have exhibited itself in several ways; the horse would have blown high; his hair would have stuck up, and there would have been several other symptoms, easily to be discovered: in his opinion, believes that the horse's death must have ensued in from eight to ten days after the commencement of the disease; has known a horse die in three days of inflammation of the lungs; considers Mr. Youatt's work, "The Horse," of high authority.

Mr. Sergeant Wilkins replied at considerable length.

Newtown Butler Sessions, June 22d.

(From the Armagh Sporting Chronicle.)

Before the ASSISTANT-BARRISTER and a Jury of three.

ADAMS *v.* WRIGHT.

Cause of action, breach of warranty—Damage sustained, £13..10s.

Solicitors.—*Messrs. Scott and Collum*, for the plaintiff; *Messrs. Chitwick and Montgomery*, of Enniskillen, for the defendant.

W. M'Clean examined.—Saw the horse in the fair of Belturbet shewn for sale; he appeared sound in his action; bought him for Mr. Adams; was commissioned to buy a horse for harness; had him engaged sound, and to draw; paid defendant £26..5s. for the horse; brought him carefully home to Monaghan; in a few days after served defendant with notice that the horse was unsound, and that he would be sold in Monaghan if he refused to take him back; was not present at the sale by auction in Monaghan; the auctioneer bought him for £13..10s. on account of plaintiff, who has him still. The horse was examined in Armagh, by Mr. Small, veterinary surgeon; Mr. Adams took notice of a hole in his side, which induced him to send him to Armagh to be examined.

By a juryman.—Kept the horse only a day before taking him to be examined; rode him back to defendant and offered him five pounds to take him back, which he refused.

John Roorke examined.—Brought the horse to Armagh, to Mr. Small's establishment, to be examined, by plaintiff's orders; it was the same horse that was bought from defendant in Belturbet fair; brought him safe back to Monaghan, and delivered him up to Thomas Houston.

Cross-examined.—Was not present at the auction, but saw the horse afterwards in Mr. Adams's possession.

Mr. Small, veterinary surgeon, examined.—Recollects a grey horse, five years old, being brought to his establishment by the last witness, on the 23d February, 1849; the horse was unsound, having ophthalmia in both eyes, being lame in the off fore foot, and having abdominal hernia below the flank on the off side; the disease of the eye must have existed some months; the lameness in the foot was caused by a separation of the horny sole and crust, the probable effect of a suppurating corn; the rupture may have been caused when the horse was very young; such an injury might have been inflicted by a cow's horn; the horse's value, being unsound, is very much diminished; thinks £15 his full

value, his intrinsic worth would not be more than he brought at the auction.

Cross-examined.—Thinks any man on examining the horse's eyes would have detected the unsoundness in the fair—a common observer might not in passing; his lameness would shew at once if trotting on the hard road—it might not, however, on soft ground, or if the horse was fresh and excited. The rupture, I think, is of no consequence, the parietes of the abdomen being to a very small extent broken and the skin being perfectly healed over the surface; considers the defect more a blemish than an unsoundness, as it could not possibly lessen the value of the horse for work; does not consider the horse worth more than he brought at the auction.

Thomas Houston examined.—Was present at the sale of the horse by auction, at the Market-square, in Monaghan; was knocked down for £13..10s.; it was a fair auction; the bell was rung over the whole town an hour previous to the auction.

Cross-examined.—The horse was bought in by the auctioneer, Mr. Holmes; Mr. Holmes is a very clever auctioneer; he used all his power and talent to get a good price for the horse; there was a great flow of eloquence on the occasion; saw the horse on Saturday morning after in Mr. Adams's possession; he refused to draw the jaunting-car; would rear up, and would not work at all.

Defence.

Thomas Scallan examined.—Served a notice on plaintiff to sell the horse at the old Market-house; he was not sold at the Market-house, but at the Diamond, which is a considerable distance from the Market-house, in consequence of which none of the defendant's people were present at the sale.

Hugh Smith examined.—Saw the horse at the fair of Belturbet, and since at Clones fair; he was the best looking horse at the fair; on the fair of Belturbet it was a rainy day, and *freezing*.

Cross-examined.—Thinks it might rain in the morning and freeze in the afternoon; the road was hard enough to try if he was lame; thinks the horse he saw in Clones was the same horse; is pretty sure of it; will not swear it was the identical horse.

James Johnson examined.—Looked at the horse in the fair; knows him well; there was nothing wrong with his eyes; had him trotted out; he did not shew lame.

Cross-examined.—Is a good judge of a sound horse; knows a horse that would please himself; he is not a screw merchant; does not pretend to be as good a judge as Mr. Small.

Thomas Wilson examined.—Is a blacksmith; shod the horse for two years before he was sold; never knew any thing wrong with his feet.

Cross-examined.—He might have a little bit of a corn now and again; he often pared the corn out of his off fore foot; it did not signify at all; thought him nothing the worse for it; his foot would crack a little in drouthy weather; always pared out the cracks at the time of shoeing; shod him for the fair about a month before it. Swears he had perfect, sound, good, feet. (*Great laughter*).

Mr. Clindining examined.—Was in the fair of Belturbet; was in price of the horse; did not see him lame; thought him a very fashionable horse, and a very good one.

Cross-examined.—Is a gentleman; don't live by his wits; don't think the horse could be lame without his knowing it; did not see the hole in his side, nor feel it.

Verdict for the defendant.—*The case was appealed.*

Foreign Department.

TYPHUS FEVER IN THE HORSE.

By M. DENIS LAMBERT, Veterinary Surgeon at Lahaye-Descartes.

I HAD practised veterinary medicine for ten years at Lahaye-Descartes, when, in 1844, there appeared a fearful enzootic. Up to that time I had never met with such a disease; and this, while it attacked the horses of the country, prevailed endemically among the men.

I believe such an affection to be any thing but common in veterinary medicine. Few authors have treated of it.

Like many other diseases difficult to cure, and which assume enzootic or epizootic forms, it has received many names significant of its character, or its seat, or of some symptoms it has presented in its course. What we now call typhus fever anciently went by the denominations of *adynamic fever*, *atomic fever*, *putrid*, *malignant*, *mucous fever*, &c.

Symptoms.—If the owner of the horse be interrogated as to the symptoms that have been observed prior to the calling-in of the veterinarian, he says that for some days past the animal has lagged at his work; that motion has seemed irksome and vacillating; that in the stable he has hung his head and shaken it at times; that he is continually gaping, and frequently grinds his teeth; that his heavy head is from time to time carried round to his flank; his bowels are continually rumbling; and though he even

picks out of his rack stalks of hay, he refuses corn altogether, and drinks but very little white water.

Observing him for a few minutes we shall soon see a repetition of the same series of phenomena; and the experienced eye will detect the coat pen-feathered; the head heavy, carried from time to time round towards the flanks, doubtless on account of intestinal pain; the abdominal parietes convulsively drawn up; the mouth dry; the tongue frequently presenting little transverse furrows at its edges, while its dorsum is covered with a yellowish coating more or less tinged; the conjunctives yellowish and injected; the pulse having a particular indescribable character which experienced fingers recognize to be typhoid, the pulsations of the heart full and soft, every beat causing the thorax to rebound; the hair having slender hold slight traction brings it out in patches; the loins stiffened; the scrotum covered with a multitude of little white points, doubtless consisting of either carbonate or phosphate of lime. The heat of the body diminishes by degrees from the head to the tail; and a circumstance worthy of remark is, that if there be several horses in the same stable, the sick one is covered with flies, while upon the others scarcely any settle: appearing as if by the odour they recognized the gravity of the disease and already wished to take possession of their prey. The walk is unsteady, the hind quarters in particular vacillate. The dung-balls are softer than in health, but there is no diarrhoea, like as in certain forms of enteritis. The urine is thick, and has a bloody appearance. The appetite is not altogether lost. The animal is continually trying to eat hay: it is true he chews it as though he did not care about it, but still he seeks after it; and I have seen horses draw hay out of their racks some minutes even before they fell to rise no more.

Next day, or some days afterwards, fresh symptoms arise. Notwithstanding he has taken so little food, the patient appears swollen; and meteorization (tympanitic abdomen) really is present, and often continues until death. Petechiæ make their appearance upon the pituitary membrane, epistaxis follows, remitting for a time to break out afresh, and thus continuing for a considerable time without appearing to cause material depression, since, though blood may escape, it is but in drops. At this period, or even before, pneumonia is likely to supervene. This is always alarming, since it seriously aggravates the typhoid fever, or rather the disease in the blood; indeed, it has often appeared to me to be the cause of death. On other occasions abscesses have made their appearance, not in any fixed situation, though the breast is their most frequent seat. When small they have been many in number, and when large, have at times contained several pints of pus. When first I observed such abscesses, I regarded them with favour-

able omen, considering them as metastatic ; but I was deceived, for I lost every patient in which they appeared.

In this affection the entire economy feels the shock, the influence of temperament alone prevailing ; thus I have seen neurosis and paraplegia. The paraplegic patient retaining the use of his fore quarters, sits upon his hips without the power of erecting himself. One typhoid patient I attended, to which I had been called in late, had the neck incurvated upon the right shoulder.

THE ALTERATIONS IN THE BLOOD consist in deterioration of its best qualities. As, containing regenerating elements in health, it nourishes and preserves the tone of organs, reduced to poverty it but deteriorates and renders them soft. When drawn, the blood looks discoloured, coagulates with extreme tardiness, and instead of becoming a black clot, but half coagulates ; the serum eventually being redundant. One would think that this affection was really a dropsical one ; for if a seton be introduced, a pale red fluid escapes in a stream, which does not stain the parts it runs over, but from its continuing, alarms first the proprietor of the horse, then the veterinarian, who finds it expedient to employ compression to arrest a hemorrhage, ever auguring evil to the patient.

Prognostic.—Whenever such symptoms as we have been describing manifest themselves, the prognostic becomes unfavourable. Thus, by way of example, I have never seen horses recover that have had epistaxis or abscess. Certain subjects there are, however, in which the symptoms are mild and benignant : these recover, though they continue a long while convalescent, and the slightest work fatigues them. And then, even edematous swellings will make their appearance, extending along the belly from the breast to the sheath.

Duration.—I have had horses die of this disease the day after I was called to them ; others have died at the end of eight or ten days ; some have survived to the fifteenth or twentieth day, and others have lived a month. For the most part it may be remarked, that the services of the veterinarian are not required beyond the seventh or eighth day from the setting in of the malady.

Age.—I have met with very young subjects typhoid. I have had no very aged ones to treat. The disease seems to attack those in particular between the ages of five and twelve.

Sex.—Indifferently, male or female.

Autopsies.—I have made many ; and yet it appears I have not made enough, since I have not been able to discover all the lesions recorded by human surgeons ; for example, I have not been able to fix the different periods of eruption in the manner they have observed them.

In removing the skin from a typhoid animal, on either side of the ilio-spinal region are to be seen ecchymoses whose form is no less variable than their magnitude. These blood spots have much resemblance to those exhibited by horned cattle that die of *charbon*; save that they are not so consistent, not so large, and not near so high coloured.

In respect to the internal organs, the intestines prove inflated and display upon their surfaces multitudes of little bloody spots (ecchymoses) varying in size from that of a lentil to that of a half-crown piece; and if a portion of intestine thus highly spotted be opened, the same phenomena are visible upon its mucous lining; many of which exhibit continuity with those outside. The same bloody spots are likewise frequently observable upon the colon.

The Causes of typhoid fever seems not to have been discovered. Wherever it has prevailed among men, horses appear to have suffered likewise. In miasmatic situations, on the borders of rivers, in humid atmospheres, &c.

Contagion.—I do not pretend to say for certain the disease is contagious, and yet supposing one horse in a stable takes it, it rarely happens that the others do not suffer likewise. This I know is to be explained by all the horses working and feeding alike; and yet I have seen horses fresh arrived in the diseased quarter, speedily catch the malady.

Treatment.—After having tried all kinds that appeared suitable, I now limit my practice to purgation, and subsequent medicinals proper to meet symptoms as they arise. And in this latter I with most confidence rely. I ought to add, that I have done nothing save at such times as I deemed it required.

Recueil de Médecine Vétérinaire.

Home Extracts.

NOTES ON THE HISTORY OF HORSE-SHOEING.

THE protection of horses' feet, by means of buskins, network, leather, or metal shoes, must have been an object of very early solicitude to every nation conversant with these animals; but the impetuous action of horses, their weight, and the angular form of the edge of their hoofs, appear long to have rendered all attempts to effect the purpose abortive. Even in recent times, Kämpfer informs us that in a great part of Japan, a kind of rush-work is used, which wraps the whole hoof, and wears so fast on the road,

that travellers take a provision of them on a journey, and poor people have them ready made for sale at every station. In ancient Persia, where the breeds of gray, dun, and bay races, are all hard-hoofed, the use of horses in the sandy districts did not apparently require much attention to the abrasion of the horn; but in the lofty mountain chains, running from north to south, raising the great central plateau to 4000 feet above the level of the sea, all the passes and parts of the higher surface are exceedingly stony and hurtful to the edges and frog of the foot. In rapid and long-continued marches, the hardest-hoofed animals become crippled, and in history we find more than one instance, where military expeditions were arrested in their progress until the horses had time to recover and restore their hoofs. These occurred chiefly when great operations of cavalry were directed by foreign commanders, who trusted to their energy for surmounting obstacles which more enervated native warriors believed to be impracticable. Thus Alexander the Great, according to Diodorus, and Mithridates, at the siege of Cyzicus, were both thwarted and delayed, while the Persians, under Darius, and the Parthians, do not appear to have been equally distressed under similar circumstances. From the summits of central Asia, the direct line towards the west, to the Bosphorus, is replete with lofty and rugged chains, which colonists or moving armies in these directions have to traverse. To the north of the Oxus and the Caspian the space is almost entirely alluvial and plain, there being only towards the west a succession of great rivers to cross, and severe cold to encounter. On the south of the Persian plateau, and in part across it, when the Suleimane range is surmounted, the difficulties are more serious, from the scarcity of water and the intensity of the sun, which scorches up the vegetation important to cattle, though, as neither present long enduring causes of injury to the hoofs of horses, it seems most probable that ingenuity to protect them was not set at work on either of these great lines of progress, where, on the one hand, many of the nations of western Europe, and in later ages Tartars, have passed in great numbers, or where the southern nations have once travelled westward to Arabia, and by which Alexander himself led his own army when he returned from the Indus. We must, therefore, look for the remedial inventions for the protection to horses' hoofs to the localities where they were most wanted.

Setting aside the pretensions of Chinese ingenuity, the claim might be urged in favour of the Persians, on the ground of the horseshoe distinctly marked on the sole of a satrap's charger, in the Mosaic picture at Pompeii, supposed to represent the defeat of Darius by Alexander. But as this fact appears to rest, at present,

entirely upon the authority of a coloured engraving, it may be doubted whether it be not merely an invention of the modern copyist; and, taking for granted that the horseshoe is really depicted in the Mosaic, we still have no further claim upon the reality, than the fact that, at the time when the representation was executed, horseshoes were known and used in Italy. Now, of this we are already assured by a line in Catullus, who, speaking of a mule, says,

“Ferream ut soleam tenaci in Voragine mula,
Derelinquit.”

We know that Nero had his horses shod with silver, and Poppœa, his wife, had similarly protected her mules with gold; and both lived only a few years before the destruction of Pompeii (A. D. 79), or about a century later than the poet just mentioned. Aldrovandus, quoting Suetonius in Caligula, speaks of the horseshoe, and the eight nails to fix it on the hoof. These notices we think sufficient to establish the use of them as old as the commencement of the Christian era, and if not of Persian invention, that the Romans have the best claim to it. There is, however, another, deserving at least to be mentioned; it is that of high northern Mongoles, who, it is asserted, have shod their horses for many ages with metal, and, where it is wanting, employ, even at present, the palmy parts of rein-deer horns. The use of materials positively local is somewhat a proof of originality of invention; nor is it, indeed, unlikely that the same want should have produced more than one attempt to supply the deficiency.

In support of this observation may be quoted the form of the most ancient Asiatic horseshoe, exemplified in the brand mark of a renowned breed of Circassian or Abassian horses, known by the name of *Shalokh*. The shape is perfectly circular, and instead of being fastened on by means of nails driven through the corneous portion of the hoof, it is secured by three clamps, that appear to have been closed on the outside, or on the ascending surface. Of the antiquity of this form of shoe there is no possibility of judging, because the exact counterpart of it existed already at the period when the Ionian Greeks had established fixed symbols as types of their cities and communities. It occurs on the coins of Lycia, and is known to numismatists by the name of *Triquetra*. If there be any difference, it is in a row of points on the Lycian type, as if the shoe had been perforated with holes for small nails: and what makes the selection of this object for symbol of the region in question the more remarkable is, that, in remote antiquity, it was there Celtic breeders are reported to have first commenced their trade in mules. The horseshoes of early historians, since they do not mention farriers, appear to have been of this Lycian form, or were

not fastened with nails driven through the horny hoof, yet both Tartars and Cossacks still often shoe their own horses. It is difficult to escape an admission that horseshoes of this kind are as old as the Ionian establishments in Asia Minor, unless by denying that neither the Circassian brand mark nor the Triquetra of Lycia* represent them: a conclusion which at least is totally at variance with the denomination of the mark by which the Kabardian breed is known, time out of mind. It does not appear to us a satisfactory argument to deny the probability of one or more of these inventions so far back as the Roman empire, or even to believe in a much earlier age, because, from positive testimonies, the use was unknown to the classical ages; for we should bear in mind that many of the most important usages and discoveries have been much retarded, and fated to actual opposition, from a dislike of all innovation, or abandoning a beaten track so common to mankind. If we add to this the imperfection of first attempts, the difficulty of executing the rather nice operation of shoeing, of which, in failure, pricking the horse's foot must have materially raised the prejudice against the practice, there remains no room for wonder that so many ages should have passed without a full recognition of its use.

The round horseshoe of the old Arabian method is evidently a modification of the Circassian or Lycian, the outside clamps being omitted, and nail-holes substituted. Then came the further alteration of thinner iron plates, with hardly an opening in the after portion, such as the present Arabian and the more lengthened heels of the Syrian; all of them very unfit for securing the feet in rocky countries. Thus we see the researches of Cardanus, Beckman, and Mr. Bracy Clark, led to erroneous conclusions, for the form of the shoe is but a secondary question; and to refer horse-shoeing, with Beckman, to the ninth century on that account, would exclude the practice from a great part of Asia, where the European shape is not even now admitted. That the Arabs of the Hegira, or within a generation later, shod their horses, is plain, if we believe the received opinion that the iron work on the summit of the standard of Hosein, at Ardebil, was made from a horseshoe belonging to Abbas, uncle of Mohammed, by order of his daughter Fatima. "It was brought," says the legend, "from Arabia by Scheik sed Reddeen, son of the holy Scheik Sofi, who was son of another holy villager, after the manner of the Moslem!" If the intention had been to advance a mere falsehood, it is to be wondered that Fatima, or the Prophet himself, should not have furnished a sacred shoe of one of the celebrated mares, from which sprung so many of the first breeds of Arabia, according to the as-

* See Veter: Popul. et Regum nummi, ex Mus. Brit. 4to.

sertion of devout Moslems. A horseshoe most likely it was ; but how an uncle of Mohammed should possess horses when the Beni Koreish, as a tribe, were without, and the Prophet himself, in the beginning of his career, had only three, is quite another question.

Notwithstanding Beckman's conclusions, we must continue to believe the practice much more ancient, and view his admitted thorough knowledge of the passages wherein the ancients allude to them to have been strangely misinterpreted : even the great portion of a horseshoe found in the tomb of Childeric, a Frankish king, buried at Tournay, in Belgium, about A.D. 481, being set aside, upon the pretext that it may have served for a mule, furnishes a striking example of the extent to which men will abuse the reasoning faculty when once blinded by a foregone conclusion. Surely horses would be shod where mules are admitted to have been so ; and all persons acquainted with the prejudices of the past ages, must be aware that, instead of honouring a royal funeral in pagan Europe by burying a mule with the king, it would have been a flagrant insult*.

After the arrival of the Sarmatian riding tribes, the whole of northern Europe became the land of horsemen. Dignity was seated on horseback. Priests and the southern tribes alone would be seen on mules. The feeling, therefore, of contempt for a soldier mounted on less than a horse was, and still is, general. When the old Colonel von Schlammersdorf, brought up in the Prussian cavalry, was marching, at the head of the Loewenstein Rifles, up the steep hills of St. Lucia, then attacked by Sir Ralph Abercrombie, there being no horses with the expedition as yet landed, the General kindly sent him a mule, he himself riding another ; but the sturdy old warrior, toiling in his heavy boots, gruffly replied that he did not "ride donkiest."

In the vicinity of Tomsk, on the Upper Obi, far towards the high land of central Asia, there are scattered a great number of tumuli, which for centuries had occasionally furnished rich spoils to the Calmuck Tartars, the present tenants of the soil. The Russian government at length sent officers to examine those that

* The figure of the shoe, and many golden regalia, together with golden bees, ox heads and coins, or ornaments of horse trappings, were found in the tombs at the same time. They were published in Keysler, and repeated in Montfaucon, *Monarchie Française*. In Scandinavia horseshoes were known certainly before the Norman Conquest of England, since the figure of one is struck on a Swedish coin without inscription, and, therefore, older than the use of Runic letters on medals.

† There is, perhaps, only one instance extant of an armed warrior riding a mule bedecked with military caparisons, and that is found in the cathedral at Florence, where a Commander of the house of Farnese is so represented on his cenotaph, placed above a door.

had not yet been rifled; and among others, they discovered one of three stone vaults, containing the skeleton of a man with costly arms by his side, resting on a plate of pure gold, several pounds in weight; and another of a woman similarly laid on a gold plate, having bracelets and jewels of value on the arms, while the third held the remains of a war-horse richly caparisoned, with horse-shoes on the feet, and metal stirrups for the rider. This tumulus, no doubt, contained the remains of some mighty Khan, though not of great antiquity, since the stirrups attached to the horse's saddle prove a comparatively late date; notwithstanding the very ancient usage for the Sultan to date his public acts from the *Rikiab*, or stirrup. The horseshoes, by the form they displayed, may have been of European workmanship, and the whole deposit of the time of the great Tartar invasion of Russia and Poland, between 1237 and 1241. It is probable that, with the exception of the nobles, some Mongolic nations did not invariably shoe their horses until a later period, because they usually travelled with two each, and shifted the saddle from one to the other, to relieve the fatigued. Moreover, the nature of the soil was not hard nor stony; though the rivers they had to swim across were numerous, broad, and expanding, during the summer freshes, from eight to twenty miles, like the Don, which was actually traversed by the Tartars, floating their wagons and plank wheels, all of wood, with the baggage upon them, while a party of horses, attached to the vehicles by the tails, swam onwards, and the riders hanging on by their manes. A relay of other animals rested with their heads attached above water, floating gently, till they were, in turn, brought forward to exertion. Departing from some headland, they crossed, in this manner, to one on the opposite shore, whither the current must carry them, and accomplished the task in comparative security*. Thus no barrier could stop half a million fierce barbarians, who devoured all that was consumable, slew or enslaved the whole population, and burnt and sacked all they could not carry away. To such a degree were these expeditions destructive, that the Crim Tartars used a proverb, still repeated in the last Austrian Turkish war, that "grass would not grow for seven years where a Tartar's horde had passed in its thrice-sweeping foray." The Poles reckon ninety-one invasions from the East, almost all Turkish or Mongolic; and the early use of horseshoes among the riding nations may in some sort be assumed from the exceeding frequency of that object in the arms of the nobles of all the nations of eastern Europe.

Although horseshoes may not have been known in Africa before

* In these very long traverses they had also inflated horse-skins, to render the vehicles more buoyant. This plan was practised, it is asserted, by the ancient Celtæ, in Scotland, and is done in Indo-China and India.

the wars of Belisarius, or still later, it is nevertheless certain that in Abyssinia, in Barbary, and even in Guinea, they are fixed on doors and the thresholds of houses, as much as in Europe, Asia, or America. We have seen one carved on a pagan Runic monument of the eleventh century. The practice is known in the east of Asia, in Japan and China, in Bokhara and Persia; and it is to be traced on the cabin door of the Hottentot, and the west-coast Negro, almost as frequently as on the barn-door of a Dutch or English farm. The horseshoe may even be seen nailed to the masts of coasting vessels; not, as might be expected by antiquaries endeavouring to make it the practice of some lunar arkite reminiscence, by placing the iron with the heels uppermost, but, on the contrary, in all cases they are downwards, and while in this position it defeats all plausible connexion with a known pagan system. No reason is offered as a substitute; we are simply told that no witch nor evil spirit can enter where this symbol is fixed*. This answer is universally the same, and no more strict inquiry can extract any thing further, or more rational. It is difficult to conceive when or why an object, pretended to be of such recent invention, could be made everywhere to symbolise a contemptible superstition; how abettors could be found to spread it over the whole surface of the earth, without an ostensible motive, or even time to perform the task.

When plate armour began to increase in weight, in order to resist the rising use of fire-arms, the so-called great horses, dextriers or chargers, were more and more confined to the large black breeds of the Netherlands and the chestnuts of Lombardy, on account of their heavy limbs, supposed greater strength, broad hoofs, and thick hairy fetlocks, which protected the lower joints among the armour and arms strewn over fields of battle. These horses were shod with large and very heavy iron shoes, slightly pointed and turned up at the toe, and cocked at the heel with high and broad spikes, to afford a surer footing in a charge. A specimen of the kind is figured in an exceedingly rare pamphlet, printed in 1485†. Cor-

* It used to be the custom, in Devonshire and Cornwall, to nail them on the great west doors of churches,—possibly to keep off witches, one of whose especial amusements it was

“To untie the winds, and make them fight
Against the churches.”

On the church door at Halcombe, in Devonshire, were formerly four horseshoes, said to be those of a horse ridden some distance into the sea, by one of the Carews, for a wager.

† Jacobi publici Florentini Oratoris Institutio. Plate on the last page. This pamphlet, specially noticed by Dibdin, has been sold for above eight guineas.

responding to the Italian horseshoes were the Belgic and Wallon, as we find in the *Guerre des Awans et des Warons*, a MS. in our possession recording the party wars among the people of Liege. "Large fer a cheval ot, a talons moult crochus;" and in another author of the same period there occurs a notice of the great horses then in use, which, though not referring to the present purpose, is not without interest.

"En celuy temps de werre et encore par l'espace de dix ans apres le pays faits, les chevaliers et escuyers d'honneur soy Kabloient sor d'astriers or sor corsiers de tel bonteit, quil soi pouissent sur assugerir : est estoient fort hautes selles de Tarnoy sans satoir, los covers de couverture ouvries d'œuvre de brosdure de leurs blazons armoreiz et estoient armées de plattes de bons harnas de menus fer, et heut sor les plattes bons riches wardecorps d'armes armoriez de leurs blazons et avot cascon un heaume sur son bacinet a on timbre ben jolit, et plusieurs seignors chevaliers et autres y-avoit que aldessos de los couvertures de menu mailles de fer por la dolanche de leurs chevas*."

Of the broad Flemish shaped horseshoe a specimen was discovered in Devonshire, broken or decayed by rust to one half; the other was wrapped in an indurated clay pebble, which, on being split, shewed the part remaining quite perfect, the clay having been hardened by the oxide of iron, although, from external appearances, it had long rolled, in the form of a flat pebble, in some river, or on the coast of the sea. In other cases the tendency of iron to moulder into rust prevents ancient horseshoes being found more frequently.

William the Conqueror is said to have introduced horse-shoeing in this island; nevertheless, Welbeck, in Nottinghamshire, was then the property of a Saxon chief named Gamelbere, who retained his fief on the condition of shoeing the king's palfrey whenever he should lie at the Manor of Mansfield, and that he should give another palfrey worth four marks whenever he lamed the king's animal. If the account of this tenure be true, horse-shoeing must be older in England than the Norman conquest; and when we look to the Bayeux tapestry, admitted to be little posterior to that event,

* "In those times of war, and even ten years after the peace was made, knights and squires of honour rode great horses or coursers of the greatest value they could procure, and they had very high tourneying saddles without foresaltiers. They were covered with caparisons wrought in embroidery with their armorial blasons. They were armed with breast-plates with good armour of thin iron pieces, and upon the plate they had rich wardcoats bearing their blasons. Each had a helmet upon his bacinet with a handsome crest; and several lords, knights, and others had beneath the drapery of their caparisons, ringed mailed for their horses."—Hamericourt, *De Bellis Leodunsibus*, c. 41.

we perceive both Saxon and Norman horses with unequivocal marks of shoes and hobnails at their feet. Henry de Ferrers, who bore six horseshoes in his shield, was one of the Norman invaders, and, it is believed, was entrusted with the inspection of the king's farriers. These armorial bearings are, it is true, older than the regular establishment of heraldry, but most likely they were, together with the family name, signs of office. The proper names of Marshall and Smith are similarly typified by hammers, tongs, anvils, and horseshoes.

At the battle of Hastings, however, it does not appear that the Saxon cavalry mustered in any force to oppose the Normans, and consequently the opinion respecting the ignorance of horse-shoeing in England at that period may be admitted, under the qualification that this practice was not as yet commonly understood or adopted, with the more probability; since, even to the present time, it is only applied to the fore-hoofs of agriculturists' horses in many parts of the continent, and in some is still altogether disregarded.

In the days when a barbarous extravagance was often taken for magnificence, a horse in base latinity denominated *Clapponus*, derived perhaps from the German *Klepper*, was occasionally shod with silver. Du Cange, copying Bartholomeus Scriba, makes the word to mean a horseshoe, with the following quotation from the above writer's *Annal. Gennenses ad ann. 1230*, "*unde optimus equus compararetur, et ex parte sua præsentaretur communi Ganuæ, co-opertus optimo auro et ferri pedatus clapponis argenteis; qui equus, sive desterius, emptus fuit et ductus percivitatem Ganuæ in signum memoriæ cum clapponis argenteis et panno aureo co-opertus.*"

It is related of Boniface, Marquis of Tuscany, one of the most wealthy princes of the eleventh century, that going to meet Beatrix, his intended bride, his horses were shod with silver, which was allowed to be cast off, in order to be appropriated by the multitude. This was A.D. 1038. At a much later period, James Hayes, afterwards Lord Doncaster, an English ambassador, is related to have acted in a similar manner on his public entry into Paris.

"Six trumpeters and two marshals, in tawny velvet liveries, completely suited, laced all over with gold (richly and closely laid), led the way: the Ambassador followed, with a great train of pages and footmen in the same rich livery, encircling his horse. And some said (how truly I cannot assert) the Ambassador's horse was shod with silver shoes, lightly tacked on; and when he came to a place where persons or beauties of eminency were, his very horse prancing and curvetting, in humble reverence threw his shoes away—which the greedy understanders scrambled for, and he was content to be gazed on and admired till a Farrier, or rather the

Argentier, in one of his rich liveries, among his train of footmen, out of a tawny velvet bag, took others, and tacked them on, which lasted till he came to the next troupe of grondees; and thus, with much ado, he reached the Louvre*."

In the chivalrous ages a marching party of marauders, by placing the horses' shoes in a reversed manner, deceived pursuers, who, seeing the toe-marks in a given direction, turned their backs upon the route they pursued. It was, we believe, most practised by moss-troopers in the Border Wars, who had often very great reason to avoid capture, for the gallows not unfrequently closed their account.

Rough shoeing obtains attention in all cold climates where ice and sudden frosts on roads demand it. Continental farriers "cock" the heels of the shoes to insure a firm footing, and prefer the practice as more safe than the use of rough shoeing nails, which are liable to break off, when, the heads of the nails being gone, the horseshoe is left smooth and loose on the foot: this is the case more particularly where ice lies on paved roads, where all methods of rough shoeing are of little avail; as we have amply experienced on many occasions, and a sudden frost on a London thaw often exemplifies by the numerous and distressing falls of carriage and brewers' horses then witnessed.

The great difficulty in the management of a horse's foot seems always to have been how to combine the preservation of the corneous substance without contracting the heel. Iron shoes with a hinge at the toe have been tried, it appears, in vain. Veterinarians, after infinite experiments, have certainly succeeded in designing an improved shoe; but, after all, it seems that, like the ladies' shoes of China, cramping the feet to some extent is inherent in the material, and in sandy countries unshod horses have many advantages. We have known India-rubber shoes successfully adopted to restore the feet of horses seriously injured. It may still be a question whether a composition of the same, caoutchouc and coarse hair or felt, might not be made to answer the most requisite qualities of iron shoes, without producing their defects.

United Service Magazine.

ON THE DISTINCTIONS BETWEEN ANIMALS AND PLANTS.

By ROBERT BENTLEY, *Esq.*, *F.L.S.*,

Lecturer on Botany at the London Hospital.

IF we compare together the higher tribes of the animal and vegetable kingdoms, we shall find no difficulty in forming a distinct idea as to which kingdom of nature they respectively belong.

* Wilson's James I, p. 94. This occurred A.D. 1616.

Thus, no one would feel any uncertainty as to the characteristics proper to a forest tree or a quadruped; but, as we gradually descend to the lower tribes of the two kingdoms, we find the distinctive characters becoming gradually fainter and fainter, until we arrive at last at a simple cell, which appears to extend upon the confines of the two kingdoms, and to partake of the characters of both, and might with equal justice be referred to either. Indeed, there are not wanting physiologists of the highest ability, as Kützing, Unger, and many others, who believe that there are natural bodies which are vegetables at one period of their lives, and animals at the other. They positively assert this to be the case in some of the lower *algæ*, as *Ulothrix zonata*, *Vaucheria clavata*, &c.

Linnæus has said, that vegetables grow and live, but animals grow, live, and feel; and this definition is nearly in accordance with the generally received opinion upon the subject, for animals are commonly regarded as beings which live, grow, and reproduce themselves, agreeing in these characters with plants; but they also possess the powers of voluntary motion and consciousness of external impressions, characters which we usually consider plants not to possess. But we cannot deny the power of locomotion to many tribes of plants, as the *Diatomaceæ*, and there are numerous plants which move with as much appearance of consciousness as many of the lower animals: for example, compare the movements of the *Oscillatoreæ*, and the reproductive particles of some of the lower aquatic tribes of plants, with the movements of many *polypes*, and the lower *mollusca*. Again; there are large tribes usually considered as belonging to the animal kingdom, and of which we may take the sponge as an example, which, as far as we have ascertained at present by observation and experiment, possess neither sensation nor power of voluntary motion.

Another character commonly regarded as distinctive of animal life is the presence of a stomach; but, strictly speaking, we might consider a plant as composed of many stomachs, for every vegetable cell of which it is composed is physiologically a stomach. In animals, however, the stomach is not a closed one as a vegetable cell, but it is open to the external medium, and food is thus introduced into its exterior, consequently absorption of nutriment takes place from within; whereas, in plants, absorption of nutriment takes place from without, into a cavity which is a closed one.

The respiratory process also affords a character, by which animals are considered by some physiologists as distinguished from plants; for, in the respiration of animals, oxygen is absorbed and carbonic acid evolved; whereas, in what has usually been considered the respiration of plants, we have a fixation of carbon and

evolution of oxygen. But this process occurs only in plants exposed to sun-light, and seems rather to be analogous to the digestion in animals; and we believe the true functions of respiration in plants to consist, as in animals, of an absorption of oxygen and evolution of carbonic acid, and this process we know takes place both by night and day in plants.

Generally speaking, animal structures are quaternary compounds, consisting of carbon, oxygen, hydrogen, and nitrogen; whereas vegetable structures are usually ternary compounds, being composed of carbon, oxygen, and hydrogen; but there are many instances of plants possessing nitrogen as a component part of their structure, as, for instance, the *cruciferae* and *fungi*.

Another distinctive character between animals and plants is derived from the nature of their food; the food of plants consisting of elements derived from the inorganic kingdom, which they convert into certain organic compounds, while the food of animals is derived from the organic kingdom. Animals do not possess the power of converting inorganic materials into the substance of their tissues, hence they are dependent upon plants for their means of support; and here we may notice the beautiful provision of Nature, by which one kingdom is made subservient to the uses of the other.

We see, therefore, that in the present state of science we cannot draw a distinct line of demarcation between the two kingdoms. Numerous tables of supposed distinctive characters have been drawn up, of which the following has been given by Dumas:—

PLANTS	ANIMALS
Produce indifferent substances containing nitrogen; ——— fats; ——— several varieties of sugar, starch, and gum.	Consume indifferent substances containing nitrogen; ——— fats; ——— sugar, starch, and gum.
Decompose carbonic acid; ——— water; ——— ammoniacal salts.	Produce carbonic acid; ——— water; ——— ammoniacal salts.
Give off oxygen.	Absorb oxygen.
Absorb warmth; ——— electricity.	Produce warmth; ——— electricity.
Are apparatus of reduction.	Are apparatus of oxidation.
Are immoveable.	Change their place.

We have already shewn that several of these characters will not bear the test of examination, and we might also proceed to point out many exceptions to all the remainder; but sufficient has been already stated to prove, that, in estimating the distinctions between the two kingdoms, we must be satisfied with characters taken from entire kingdoms, rather than from individuals; and then we shall

find that the characters we have mentioned above will be found generally applicable.

Finally, it would seem, from recent investigations, that we do, however, possess one absolute distinctive character between the two kingdoms, and that this consists *in the power which plants possess of secreting starch*, for at present starch is unknown in the animal kingdom. Hence, should future experiments confirm this fact (and there appears no reason to doubt it), we shall be readily able to ascertain the vegetable or animal nature of any doubtful body; and by this test, namely, the presence of starch in their interior, the nature of the true corallines, and a number of other doubtful bodies, have been already ascertained, and found to belong to the vegetable kingdom.

Pharmaceutical Journal.

THE VETERINARIAN, AUGUST 1, 1849.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

FOR some years past influenza has not been so extensively prevalent among horses as it has during the months of June and July of the present year. In the metropolis it set in with the month of June; in the provinces it appears to have been later in making its appearance. At the time we are writing, though diminished we believe in its numbers of sufferers, it still prevails. During the winter just passed there had been heard some little murmuring among veterinarians in general about slackness of business; for the last two months, however, we will venture to affirm, few of our professional brethren have had over-much time to discuss their after-dinner bottles.

We cannot say the influenza of the summer of 1849 has proved so mild as we have seen influenza, equally prevalent, of former years, and yet we cannot complain of its fatality: on the contrary, indeed, when the cases have been placed early under proper treatment, fatal occurrences have been but rare. As on similar occasions in former years, the five-year-old horse has been the especial subject of the disease; and though many of younger years have been attacked, few older seem to have had the complaint. As in former

epidemic seasons, likewise, an easterly wind with a hot sun has been the prevailing state of the weather.

The generic form of the present influenza, pathologically regarded, is *catarrhal*. The mucous lining of the air-passages is its primary and principal seat; and its specific character is *laryngitis*, complicated in some instances with bronchitis. Sometimes the disease involves the pleura; and now and then the membranous lining of the joints, or that of the bowels. In some subjects its attack is so slight that it hardly attracts notice. On the other hand, influenza may set in with manifestations of uneasiness and pain, and so create in the mind of the beholder more or less alarm for the patient. Commonly, the horse is first observed to be languid and dull; to refuse part of his food; and occasionally to utter a short, dry, half-suppressed cough; though now and then it happens that, in consequence of the attack being severe and sudden, the horse is at once seized with short and quick breathing, and accelerated pulse. In either case his great complaint is extreme soreness of throat, causing the animal to make every effort to suppress or mitigate his cough, the source of so much pain to him. When the attack manifests itself in this severe form, there is seldom at first any discharge from the nose; though this is a symptom so desirable, from the relief it affords to the congested membrane of the air-passages, that much of our treatment should be directed towards its promotion. Now and then, however, the nasal flux is a most prominent symptom; the quantity of muco-purulent matters emitted so great, that not only do they run in profusion through the nostrils, but are coughed up also through the fauces into the mouth, occasioning the animal to slaver by freely mingling therein with the salivary secretion. All this, we repeat, tends very much to the relief of the sore throat and painful cough, while it mitigates or keeps off pulmonary disturbance.

Bronchitis may accompany the disorder, and it may be combined or followed by pleurisy or by rheumatic affection, or by bowel irritation. These several affections, however, are, according to our views, modified in their types and tendencies by the influenza present. We do not regard the bronchitic or the pleuritic disease, the accompaniment or sequel of influenza, the same as bronchitis or pleuritis under ordinary circumstances. Oftentimes the agitated

respiration is an alarming symptom of influenza; but, then, the quickened breathing prevails by “fits and starts,” as though it were spasmodic, or rather—as it does, we believe—as though it proceeded from irritation of the air (in its influenzal condition?) upon the bronchitic membrane. And this paroxysmal accelerated breathing we have seen more remedially tranquillized by *ether* than by blood-letting. In fact, in our opinion, it is the want of consideration that this, together with other symptoms calculated to create alarm, occurs under circumstances of prevailing influenza, which has led veterinary practitioners into error in their treatment of such disease. It ought to be borne in mind that the certain issue, if not the natural origin and tendency, of influenza, is *debility*; and, bearing this in mind, we ought to be very wary how we permit ourselves to use the lancet and other depletive remedies in the manner or to the degree we would were the complaint bronchitis or pleurisy in an ordinary form, or in an ordinary subject. We will not go so far as to say that a man is not warranted in bleeding at all at a time when influenza is complicated with and rendered dangerous by supplementary attacks upon the membranes or organs of the body; but we give it as our decided opinion, based upon no little practice, that the blood-letter ought to be content with the smallest possible amount of abstraction of the vital fluid, and that the circumstances must be extraordinary indeed to warrant any repetition of the evacuation. And certain it is that, when he has bled, he will in the sequel find his patient suffering much more from debility than if he had succeeded in treatment without blood-letting.

For our own part, for the usual attack of influenza we give, simply, at first an aperient; and after well fomenting the throat with water as hot as a man can bear his hand immersed in, and steaming the nose well with the vapour arising from it, we have the throttle (or *vives*) and upper part of the neck opposite the wind-pipe, thoroughly rubbed with the *liniment. ammon. cum terebinthine*. The spongio piline will be found of great service as a means of long-continued application of warmth with moisture to the throat—as a sort of poultice to it, in fact. And at such times as any irritation has been manifested by quickened breathing, we have found great benefit conferred by giving ether, in ounce doses, two or three

times a-day. As soon as any sign is observed, or indeed suspicion aroused, of an attack on the chest, counter-irritation ought to be had recourse to. The breast should be well rubbed with the liniment, and after that has taken effect a rowel may be inserted: at the same time the sides ought to be, without hesitation, closely trimmed and sharply blistered. Means such as these, we believe, will in the generality of cases supersede the necessity of blood-letting; the objection to which is, as we have already urged, the great debility surely consequent on the abstraction.

We this month print the fourth and concluding section of Mr. Read's "Essay on the Management of the Farm Horse." Our readers will remember the notice which was prefixed to the first portion of the "Essay," in our Number for May last, viz., that it was intended to compete for honours offered by the Royal Agricultural Society for "the best Essay on the Management of the Farm Horse;" but that, in consequence of its arriving at its destination later than the time appointed for the receipt of candidates' papers, owing to the sudden indisposition of its author, it was not permitted by the Society to enter the ranks of competition. "'Tis an ill wind that blows nobody any good," says the old adage: it was precisely this direction of the wind that blew Mr. Read's "Essay" into our pages; wherein it has, we hope and will venture to allege, even by veterinarians, been perused with that gratifying interest which the lucubrations of men of years of experience and habits of observation can hardly fail to elicit. By practical farmers, for whose edification the Essay was especially written, the rules of guidance laid down for the management of their teams, together with the various suggestions scattered through it for the improvement of such management, coming from a man who all his life has combined agricultural with veterinary pursuits, will have due and proper value set upon them. For our own part, we return Mr. Read our best thanks for his paper; while we acknowledge that it has added one more, and that a weighty one, to the many obligations THE VETERINARIAN is already under to him, as one of its earliest and staunchest supporters, for numerous valuable contributions sent to it in days gone by.

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LAMENESS IN HORSES.

By WILLIAM PERCIVALL, *M.R.C.S. and V.S.*

[Continued from p. 441.]

CAPPED ELBOW.

AKIN to "capped hock" is the disease I am now about to describe under the analogous appellation of *capped elbow*.

THE POINT OF THE ELBOW, a part as familiarly known to a horseman as *the point of the hock*, exhibits under disease the same rotund fulness or enlargement as in either case is signified by the epithet "capped." And anatomists know that while there exists a correspondence between these "points" or protuberances in relative position and structure there can be discovered sufficient analogy between their diseases to warrant the placing of the affection we are about to consider in the same nosological category with capped hock. Over the olecranon of the ulna, the same as over the tuberosity of the os calcis, the skin is gathered into a sort of cap, interposed between which and the bone beneath are several concentric, dense and yet loose, layers of cellular tissue, which render the cap in every direction extremely moveable, while they admit of free and complete flexion of the elbow joint. And these layers are so arranged that an imperfect sort of cavity, having some resemblance to a bursa mucosa, is formed in the midst of them, which, as in the case of the correspondent formation upon the point of the hock, in the normal state appears to contain nothing beyond a kind of serous vapour, such as is exhaled into the cells of the reticular tissue of the body generally.

IN A STATE OF DISEASE, however, the exhalation becomes augmented to that degree that the vapour condenses into a serous fluid, and as such collects in the cells of the reticular tissue clothing the point of the elbow, stretching the cells, and causing them to break one into another, so as ultimately to form one large pouch or small ones for the collected fluid. Capped elbow, therefore, like capped hock, is no more at the beginning than *serous abscess*, though in time the serous may become changed into solid albuminous deposit;

and this, in its turn, take on a suppurative action. Under unusual excitement, from the very first, solid instead of fluid matters will be effused, or there may be a combination of both; and the solid deposition, unless timely dispersion of the tumour be effected, will, in the course of time, become altered from mere lymphic matter to hard fibro-cartilaginous substance, having a yellowish white aspect, and looking like what is vulgarly called *callus*: the forthcoming change being one of a scirrhus nature. Upon the surface of this scirrhus tumour, now and then, suppurative action will spring up in places, giving rise to little abscesses, which will burst, and leave behind them ragged nasty-looking sores, leading into sinuses, and evincing little disposition to heal; in which foul intractable condition the tumour may, uncorrected, continue to annoy the animal even for years. Sometimes the tumour is *encysted*; i. e., is continued within a sac, formed around it by the condensation of the vicinuous cellular tissue; and when this is the case, a simple operation gets rid of the enlargement at once. Sometimes, however, the tumour is found to be everywhere attached, and to have a broad basis, whose root may run deep enough to cling to the capsule of the elbow joint. This renders extirpation difficult and dangerous.

THE MAGNITUDE the tumour in question is likely to acquire will, of course, be regulated by circumstances. Aggravating causes, and especially when they come to be often repeated, will occasion so much secretion and deposit through the inflammation they give rise to, that very large tumefactions will be the consequence. The ordinary magnitude of the tumour is that of a small apple; but it may grow as large as a very large apple, or a melon; and, being solid and substantial within, its weight tells considerably. Mr. Braby had occasion to excise one off a dray-horse, he informed me, weighing seven pounds!

LAMENESS is not an accompaniment of capped elbow, no more than of capped hock, unless under extraordinary circumstances. When the tumour comes to acquire enormous bulk and weight, or to exhibit sores upon its surface, lameness may be occasioned by the inconvenience and impediment to motion of the elbow joint it causes, or by the pain or soreness produced on motion.

CAPPED ELBOW IS CAUSED by contusion of the part we call *the cap*. Usually, it originates from a horse bruising his elbows in lying down, either against the caulkins of his hind shoes, or against his hind hoofs, or, maybe, against the rough hard pavement he lies down upon. As one proof that such tumours arise in this manner, horses who do not lie down are never troubled with capped elbows. And to shew that the calkings have most to do with the causation, horses having their shoes turned up—such as cart and dray and

farm horses—are the common subjects of the disease. The same fact will also teach us how to prevent them, as well as suggest a necessary precaution in their cure or removal.

THE CURE OR REMOVAL OF CAPPED ELBOW admits of a bolder practice than does capped hock. The reason for which is, that, while the latter is ever contingent to a bursal cavity, the former is, in general, too remotely placed from synovial structure to afford any ground for apprehension on that score. Therefore, so long as the tumour retains a fluctuating feel, or, indeed, a soft or penetrable feel, we without hesitation pierce its substance with a trocar or seton-needle, and fasten a seton of broad tape within it; than which there is no more summary or better practice for its speedy and permanent dispersion. Should such procedure give rise to any painful or alarming inflammation in the tumour or parts adjacent—which has rarely proved to be the case—withdrawal of the seton, with fomentation of the part, and physic, will abate it, and soon enable us to re-introduce the seton. Indeed, it is possible, the presence of inflammation might from the first forbid, for a time, the insertion of the seton. The insertion should be made in such manner that the lower orifice may be completely dependent; i. e. in the *vertical* direction, And whether tape or hemp or silk be used, the ends must *not* be joined together—for this would leave hanging out of the apertures a loop extremely dangerous, from its liability to catch in something and so be by force probably torn out—but should have knots tied in them large enough to prevent their withdrawal through the holes in the tumour. The seton ought to be retained until the swelling has become reduced to the greatest reducible degree.

Either from the hard consistence of the tumour, or from its long duration, a seton being deemed or proving unavailing, we must turn our thought to extirpation of it; and there is no more ready and safe mode of proceeding with this view than excision with the scalpel. If the tumour happen to prove encysted, the first cut had better be made directly across its free or posterior surface, from above downwards; which done, the tumour will, as the phrase goes, “shell out,” and so leave all that further requires to be done simply to the stitching up of the integument. When the skin, however, proves on all sides adherent to the surface of the tumour, it will be better to make a circular incision, carrying it around the broadest circumference of the tumour, or else varying its line of direction according to any ulcerations or tubercular eminences there may be upon its surface we may be desirous of getting rid of. Caution will be required whenever the tumour appears to have a broad and interminable base; since it is not so very unusual for callous swellings of long standing to have a connexion with the capsular ligament of the elbow-joint.

ON SHOEING HORSES.

By SHOEING SMITHS.*To the Editor of "The Veterinarian."*

Sir,—THE men in our shop having heard master tell a gentleman about Mr. Gloag pressing horses' feet in a vice, our curiosity was set a going to know what it was; when we found you were also writing what you call a leader, the wheeler having had the hardest work. We were wondering about the gentleman you mention belonging to a building society, and that the old fabric at Pancras was being served as you write, when the boy who picks up the stubs and sweeps out the shop put us right by saying, you meant our business; therefore it is time we looked about us, because, as they are going to make bread by machinery, you may be after shoeing horses by steam, and then, unless they grow bread-stuff in the same way, we may be obliged to migrate. We have talked the matter over at our club, and a few of us have come to an agreement, instead of putting on our jackets and walking off, leaving the 'bus horses, and my lord's horses that are wanted for court or the opera, standing unshod in the shop, to resist any new-fangled changes by what we believe you calls "moral force." We, of course, do not know which way the cat will jump among these experiments: all we ask is, you to be so kind as to put in a few lines from us about what we know, whether it may be old signifies nothing.

I was some years ago at Newmarket. I shod a colt for Mr. B. the trainer, as I supposed, very well; I pared the sole thin, and, with one of Long's best, the corn places, (where, when the shoe was on, the Italian boy might have hidden his white mice), the shoe being laid flat, as is the custom, upon the heels. In a few days down came Mr. B., complaining that the colt was easing his feet in the stable, and when led out was cramped in going. Master told me to widen and spring the heels of the shoes, and he went a little better. I went up a few days after to plate a filly, and the old man said, "You lay that plate flat on the heels, but galloping over the two-year-old course will separate it from the heels." "You're right, master; yet the iron is the best Swedish; but it matters not, I did the same with the colt's shoes." "Yes," said he; "but the heels have grown down, and he begins to go feelingly again." I pared away a little of the horn of the heels, and told him to do the same in a few days. "Good, man," said he, "but cannot you smiths think of some contrivance without my being obliged thus to shoe the colt myself?" "Yes, Sir, if I take him to the forge and remove the shoes, notwithstanding the strength of the heels, the crust in

front is so thin I can with difficulty only drive a nail without the risk of lameness. He muttered to his son, "Never know his rate, down in the betting, and scratched at the corner." I supposed he meant what was the use of my scratching out the corn places. Now, I had some doubts before this of the utility of this practice; but with this class of horses there is no doubt of it, whether the heels are sprung or not; thus artificially cutting away a part which, even if the colt was without shoes, does not wear down sufficiently, and with shoes does not wear in the least. You therefore are doing in this case what is consistent with Nature, i. e., you weaken the part, allow of the heels wearing, and the downward motion, but as to any descent of the sole only at this part, as is generally supposed by paring the corn places, you may easily convince yourselves that is "all my eye and Betty Martin," as the 23d experiment of Mr. Gloag literally proves it to be "from yielding of the whole hoof backwards." "You are right Bill:" I was going to say something similar about the carriage-horse we had in the shop yesterday, but I won't put you out. Go on."

Well; I was in the habit of going up to Mr. B.'s to see if all was right, and he said to me, "The old bay begins to go stale, and I cannot see anything wrong about the legs; just look at his feet." I believe he was the trial horse, and, of course, had had a deal to do in his own time: rattled along against the young uns, his feet, which had originally been very good, were now beginning to fail under this continued exertion. From what I could learn, he had always been shod level at the heels, which there had been no necessity to spring; but it was evident that something of this kind was now required, for as the heels could not get down, as Mr. Gloag describes, in the right direction, the foot was going backwards altogether. Now, mates, how are we to shoe a foot of this description? If you cannot tell, perhaps some of our masters can? Well; I sprung the heels of the shoes of this horse a little, but the foot only seemed to go more backwards; however, I did not mind that, but persevered, and in time, but by growth only, the foot in some measure recovered. At first, I said to Mr. B., "You had better consult young master, who has been at college." "Oh! no. The first word from his mouth will be rest, next bleeding from the foot, then a frog seton, tips, and a run at grass. Rest he cannot; bleed he will most likely by Sam's spurs; and the whip by way of seton, to tip the young uns the go by; grass can never grow under his feet." Here it is! The first part of Mr. Gloag's observations on experiment 17th, p. 13, is expected by proprietors of horses from us, and whether or not we shall ever improve upon the means here mentioned as successful, remains to be proved. In support of the likelihood of it, I can only say, the ease given is on the prin-

ciple of the "spring:" then, why not adopt the use of steel springs instead of these subterfuges, the cost of which is just as much? As far back as April 1837, vol. x, No. 52, of *THE VETERINARIAN*, the use of steel springs is supported by the following:—

"It would be a very easy matter to give instances of the advantage derived from springs by calculating assumed cases; but they seem to be quite unnecessary, since the general principle of changing percussion into increase of pressure must, by its very annunciation, give evidence of its immense importance."—*D. Gilbert, Esq., M.P., on the Construction of Mail Coaches.*

"So great is the advantage of springs, that they almost annihilate the resistance which that part of the load which rests on them would encounter without them, upon stony roads or rough pavement. From the whole of these experiments, it appears that the advantage of springs increases with the increased velocity of carriages."—*R. L. Edgeworth, Esq.; F.R.S., M.R.I.A., Essay on the Construction of Roads and Carriages, 2d edition, p. 118.*

Now all this is proved by Mr. Gloag, as regards the "spring" of the horse's feet, not only negatively, but positively. We have not increased the advantage of springs with the increased velocity of the animal, excepting the few trifling shifts. Now, although a carriage is used on wood pavement, or the level rail, it is supplied with springs; no expence is spared to secure from injury *things* which, when put into competition with a *race horse*, is comparatively valueless. The consideration of the subject only renders it still more incomprehensible, for who, my mates, are the artisans in both cases? I can tell you more places than one, in and near the metropolis, where the spring-smith is also a shoeing-smith. One would suppose they, at least, would apply springs to the animal, as well as to other machines. Where are their wits? Some of our masters have shewn us what we ought to do, and the sooner for our own credit the better.

Mr. Percivall writes in the leader, "concussion" is guarded against by "springs;" and in the 6th and 18th experiments reference is made to this gentleman's opinion of the spring of the horse's foot.

Springs.—"They convert all percussion into mere increase of pressure; that is, the collision of two hard bodies is changed by the interposition of one that is elastic into a mere accession of weight."—*Gilbert.*

Now what in future are we to interpose between the hard heels of the hoof and shoe?—Space only, fresh leather, cloth, felt, or *steel spring and space*, between it and the shoe or ground?—This, an open question, well worthy the attention of the artisan and mechanic, I have endeavoured, my mates, to fairly lay before you,

and I make no doubt some of you will be able to supply what is wanted. It is your turn now, Jack.

Some years ago, I worked at the shop near Smithfield that has "Expansion" marked outside, like the barbers that had "Shave for a Halfpenny," while the business inside went on as usual for a penny; and we had, from its situation, a deal of heavy work; such horses as the carriage horse I mentioned. These machiners are large bony horses, some of them fast goers; and to shoe these horses so as to go without intermission, which is necessary, over the stones of the metropolis, is probably *the most difficult* of all for the shoeing-smith to accomplish. Now, had master lived at the West-end, he might, during the season, have had some thoroughbreds, whose feet he might have thought the better, if they had been wider at the bottom, by any means; but, blow me (excepting a few belonging to some of the young gentlemen), if ever I saw horses of this description in the vicinity of the city. The bell-shaped hoof is more common than any other: the upper part of the hoof only retains its original form: the foot is sunk backwards, the heels have all manner of forms; sometimes upright, in other cases bent inwards, in all narrower than they should be; yet the toe is shelving out like a bell, as if it did not belong to the same foot, while the lower surface presents, upon being lifted up, a strange combination,—the toe excess of spread, and the heels contracted, and sometimes, if what has been mentioned was not enough to perplex the shoeing-smith, the sole is flat or convex, and, instead of the bell-shaped, a thin crust that will barely admit of nailing any how to keep on a shoe, and the horse cannot be kept in work over the stones; these are the difficulties, Bill, in my opinion, we have to overcome: but how, in the name of fortune, are we to do it? Many a hard day's labour have I had of it, and what I have done another mate has sometimes undone. There is no doubt that what we want is knowledge among us workmen. It is not want of knowledge in masters, I believe, but, as Mr. Gloag says, "sound, positive, and settled opinion." It is very clear that in light horses there is little action of the foot—in others there is more; and in heavy horses with high action the action of the foot is so great, that the spring of the hoof is completely destroyed. Now, it is a deceitful argument to require expansion in the foot of a light horse, naturally having little action, while all others do not require any widening, even at the heels and quarters, although these may be narrow: what is required is, alteration of deformity of the hoof; the replacing of parts, as Mr. Percivall describes it, in their relative position. The attainment of this can only be accomplished through us workmen. The blame, therefore, I see plainly, from Mr. Gloag's experiments, will henceforward be thrown upon us.

But, Jack, this is not telling us how to shoe these horses; begging your pardon for the interruption.

Oh, no offence, Bill! only let me go on, and you will find I am doing it: you began with springing, and I will finish with it. I cannot, however, get that same expansion out of my head. After B. Clark published his first experiments, one Mr. Jeff, or something like it, began screwing, not like Gloag, but laterally by means of the hinge shoe, clips in the inside of the bars, and a screw-propeller through the heels of the shoe, by which he tried to widen a number of contracted feet; and, as far as that went, I believe he did it most effectually (for my master came down to Colchester, where I then worked, and, being crammed in town, must needs try it too). There is an old remark of Professor Coleman's—"The medical man who relieves the patient from pain immediately gains credit; but the veterinary surgeon who cannot make a lame horse sound gives no satisfaction." So, having made horses that were in work lame by these means, and particularly the class of horses above described, the projector of this mode of expansion was "whistled down the wind to prey at fortune." Now, if I was to be like the bard's monkey, and "empty the basket at the house top to try (or rather, to let you, my mates, try) conclusions," I should very soon be where Mr. B. Clark describes others to have gone. "Many young men, since the establishment of the College, have been engaged in this profession, who would have succeeded in the ordinary occupations of life, but they have sunk under the difficulties of this." Yet, in the face of all this, and he was a shrewd observer of horses' feet, he still looked for expansion. The half-penny, too, is kept up outside the shop, because it goes on, as I have shewn, only when the horses are outside of it.

But you are not a young man, Jack; so come to the point.

Anon, anon, sir; I should have told you before, when I read carriages, you are to *understand horses*: that is the point.

"Thus the carriage is preserved from injury, and the materials of the road are not broken; and in surmounting obstacles, instead of the whole carriage with its load being lifted over them, the springs allow the wheels to rise, while the weights suspended upon them are scarcely moved from their horizontal level; so that the whole of the weight could be supported on the springs, and all other parts supposed devoid of inertia, while the springs themselves are very long and extremely flexible. This consequence would clearly follow, however much it may wear the appearance of a paradox, that such a carriage may be drawn over a road abounding in small obstacles without agitation, and without any material addition being made to the moving power or draught."—*Gilbert*.

Now this is the way I have shod, not only those, but all classes of horses, with benefit.

“A carriage without springs, moving over a rough road, has to be lifted over obstacles, or out of depressions, and all the power expended in overcoming inertia is pure loss; but the force exerted in elevating the weight is in a great measure compensated by the preceding or subsequent descent. Now, under the supposition in my paragraph, *inertia* would be destroyed; and it already is so by springs now at present used, and by the smooth roads.”—*Gilbert*.

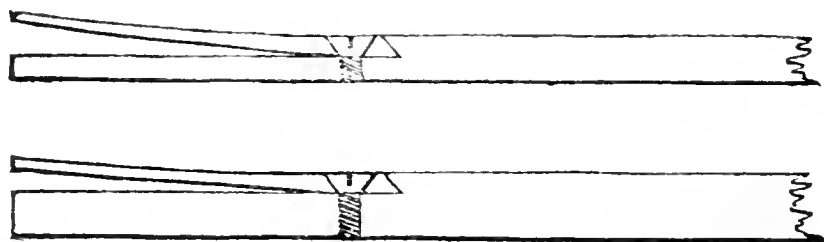
In the first paragraph of this sentence is shewn the consequences that must of necessity ensue to the feet of horses shod in the ordinary manner. The force exerted on the foot, and lastly on the hoof, in elevating the weight to propel not only the body of the animal but also the weight carried or drawn, is always producing percussion in the preceding and subsequent descent in all classes of horses. The power of the spring, as shewn in Mr. Gloag's experiments, is incomplete, or quite destroyed. In the second paragraph is shewn what happens in a horse's foot ridden or driven without shoes over unmade roads, or with springs added to the shoes over uneven or smooth hard roads.

“Now, tell us how we are to make spring shoes, as you have been in that line,” says the boy.

Willingly, boy! Twenty-four years ago I lost the good opinion of a much valued friend, connexion, and master, by not being readily able to put that in a practical shape; for he was a practical man, not a theorist; “a skilful horseman and a huntsman bred.” He was a friend of Mr. Percivall's, and thought, like him perhaps, that I was “framing plans in the cabinet for the farrier to look through when they enter the forge.” The idea of applying practical mathematics to the conformation of the horse was not mine; I only extended it to the foot in the practice of shoeing; and without you cannot now, my mates, adjust the springs to the ordinary horseshoe; it is only to be done scientifically “by calculating assumed cases,” i. e. the primary and secondary bearings of horses' hoofs, the latter of which shews you the extent of spring or action of the hoof. Do it, if you will, any other way, and it will only be like the other shifts, temporary relief. The application of a spring or two to ordinary horseshoes is attended with an expence so very trifling in comparison with the benefit to be derived therefrom, that no horse proprietor would object to pay it, if he saw the shoeing-smiths adopt the practice. Mr. Youatt received shoes of this description in 1837, the sender stating he would not be answerable for their application unless scientifically carried out; and so I say too. Since this period, I believe, others have published on the foot and shoeing: but to what purpose? The ordinary practice of shoeing is still continued, and temporary and permanent lamenesses are the consequence. Mr. Per-

civall, in the last Number of THE VETERINARIAN, boldly and at once gets rid of the subject, when he writes regarding Mr. Gloag's deductions "that a firm and fixed pressure of the hoof upon the shoe, without nails through them at the quarters and heels, is of itself sufficient to constitute fetter;" and what is the reason? Because the form of the hoof is here, as Mr. Clark described it, like the section of a cylinder, by which there becomes declined 33° and 35° after the action of the hoof, which can never happen unless there is space, or as in the case of the patent sandal, the force of action of the heels overcoming the resistance. I think Mr. Gloag will not deny this slight degree of dilatation; but this is downwards and backwards, of course, as it is by the slight depression of the sole at the point of the frog: it is also from within outwards, but this is not *lateral expansion*. With all deference to the opinion of his friend, I will, for one, admit the "*descent*" without begging the question by making "the sole thin and yielding," a state of the hoof which is not natural, even in a heavy horse with high action: this is the predisposing cause of the sole becoming thin, and the spring of the hoof being entirely lost. It is the perfection of the art of shoeing to counteract this, as well as to allow of the little action there is in the hoofs of lighter horses with low action. The difference in volume of the hoof at once gives the necessary difference in the length and flexibility of the springs that are to be attached to the ordinary shoes; and the space through which it is to descend gradually from the quarters to the points of the heels, where at the inner heel of the first variety of hoof it is, at most, not more than $\frac{1}{48}$ part of the diameter of the circumference of the upper part of the hoof.—No more at present from the men in our shop.

(Signed) JOHN SMITH.



Section of a method of attaching springs to thin level or thick-heeled shoes, opposite secondary bearing of the crust at the heels.

PROTRUSION OF THE WOMB IN SOWS.

To the Editor of "The Veterinarian."

Sir,—HAVING had several cases of inverted uterus in the sow, which, to me, appear to have terminated in an extraordinary manner, I shall feel obliged to you by inserting the following case in your next Number, in hopes that it will induce some of my professional brethren to enlighten me upon the subject, making no doubt that any remarks which may be made upon the case will be equally acceptable to many of the readers of your valuable Journal.

I was called to attend upon a sow that had just given birth to seven little ones, and immediately afterwards had expelled the uterus. She was in high condition, evidently in great pain, her throes coming on every half minute, and the whole of the womb protruding. I proceeded, in the manner I have done in several previous cases of the kind, to wash and cleanse the parts; then to apply a weak solution of the ext. of belladonna and tinct. opii; and afterwards, by manipulation, to return the parts into their natural position. In every case before this I had quite succeeded in getting all within the vagina, an operation which occupied but a few minutes; but I have found my patients have invariably died.

Mr. Youatt, in his work "On the Pig" (page 117), touches slightly upon this subject; but, to say the least of it, his remarks are valueless.

I remain, Sir,

Your's respectfully,

CAUSTIC.

PERIODIC OPHTHALMIA TREATED WITH
COLCHICUM.

By Mr. GEO. MURRAY, Swansea.

To the Editor of "The Veterinarian."

Sir,—I HAVE taken the liberty of forwarding you the following case of constitutional ophthalmia treated by me, and to all appearance successfully, with powdered colchicum. I was induced to try it from the remarks made on it by Dr. Lemann in vol. i of "*The Veterinary Record*;" and I am pretty confident, from what I have seen of it myself, that his statement is not exaggerated. If you think the case worth inserting in THE VETERINARIAN, it is at your service.

History, &c.—Jan. 11th, 1849, Thos. Dodds, Esq., of Abergelley, near Swansea, sent to me for treatment a dark brown cart-

horse, six years old, that had had inflammation in his eyes for nine days or a fortnight previous. The near eye, more than the off, seemed to have suffered, and was still suffering greatly, from inflammation: it was completely closed, and there appeared to be purulent matter issuing from the inferior canthus. The off eye was nearly closed, and so cloudy that it was quite impervious to light; in fact, the horse was almost stark blind. He shewed, likewise, febrile symptoms, his pulse being increased eight beats per minute.

The treatment I adopted from January 11th to February 17th comprised bleeding, physic, febrifuge medicine, setons, a rowel under the jaw, blisters, &c.; in short, I tried every thing, colchicum excepted, that I had ever read of or been taught about, and with no apparent good result; for on examining his eyes on Feb. 17th, I found a cataract had formed over the entire lens of the near eye, the pupil of which was very much contracted. The cataract was so conspicuous, that a person unacquainted with the disease could discern it a yard or two off. I now turned my attention entirely to the off eye, which was still very cloudy; writing at same time to Mr. Dodds, to tell him I thought the sight of the near eye irrecoverably lost. With this view I determined to see what effect colchicum would have on the near; not from any confidence I had in it, but merely from what I had read of its effects. I accordingly gave twenty powders, each powder consisting of colchici pulv. ʒij, potassæ nitrat. ʒiij; one to be given morning and evening.

Feb. 24th, I saw him again, and to my astonishment there was scarcely the vestige of a cataract left, and both the eyes were greatly improved in appearance. This may appear so strange, that many may be inclined to the opinion that cataract existed in *my* eyes instead of in the horse's; such, however, was not the case. I this day applied ext. belladon. to both eyes, to endeavour to dilate the pupils, which were smaller than they ought to be, and ordered this to be repeated every third day for nine days; I also prescribed ten more powders as before.

March 10th, saw him again, when his eyes were quite well, with the exception of the pupil of the near, which was a trifle contracted. Up to the present time he is doing well, and has not had a relapse. Whether the absorption of the cataract, and the favourable change which altogether took place in the eyes, can be solely attributed to the colchicum, I shall leave for others who are more competent than I am to decide.

I am, Sir,

Your obedient servant.

14, Singleton-street, Swansea.

August 6th, 1849.

Mount Pleasant, North Shields,
July 30th, 1849.

To the Editor of "The Veterinarian."

Sir,—The subject of the following case was a beautiful light brown mare, fifteen hands high, fifteen years old, of the pure Chapman or Cleveland breed, and, strange to say, enjoyed, to all appearance, the best of health, as a letter I herewith send from a former owner, in whose possession she was for several years, will prove beyond a doubt. By giving insertion to the details of the case in the pages of THE VETERINARIAN, you will much oblige

Your obedient servant,

THOMAS BULMAN.

EXTRAORDINARY CASE OF GASTRO-CALCULUS, OR
BEZOAR STONE, FOUND IN THE STOMACH
OF A MARE,

OF THE ENORMOUS WEIGHT OF 12 lbs. 1 oz. AVOIRDUPOIS.

By THOMAS BULMAN, V.S., *North Shields.*

(Taken from Case Book.)

May 9th, 1849.—WAS this morning requested to attend a mare, the property of Nicholas Morris, Esq., Blue House, Usworth. The groom informed me that he thought the case one of "colic," and that he had given one of my antispasmodic drenches. I set off immediately, the distance being about eight miles, and on my arrival I found the mare standing, apparently free from pain. I, however, thought it prudent to remain an hour or two to see that all was right, the distance I had come being considerable. I had not waited more than an hour when the groom came and informed me the mare began to shew great uneasiness; and on going into the stable, I found her sitting upon her right haunch, turning up her upper lip, neighing, and looking around her in a wild and indescribable manner, and occasionally turning her nose close into the region of the heart. I raised her up, when she shook herself, and seemed quite free from pain. Being, however, informed that the mare had not dunged during the night, I gave ol. lini \mathfrak{z} x, jalap. \mathfrak{z} j, sulphat. magnesiæ \mathfrak{z} iv, oatmeal gruel one pint, and injections with ol. lini, &c. to the amount of four quarts; legs to be well rubbed and bandaged; body moderately clothed; and then to be left for the night.

May 10th.—On visiting my patient this morning I found her standing, apparently well. Her bowels were freely opened, and

every thing was going on well. My employer being present, I told him the mare seemed now quite well, and I did not think my services were any more required for the present; leaving due caution with the groom to give her soft mashies with a little boiled linseed, moderate exercise, &c.

May 14th.—Received a note from the owner of the mare informing me she was doing well, and was now working a little.

May 18th.—Was this morning summoned to attend the mare again. The messenger informed me she was taken ill in the same way, but thought her much worse this time than before, and that they had given her an antispasmodic drench. On my arrival I found her lying in a natural position; pulse a little subdued; legs and ears moderately warm; dung pultaceous; urinary passages free. On learning from the man that the night previous the mare had a small portion of grass given her, and that morning the same, I repeated the opening medicine as before, and gave more injections, and remained with her six or seven hours, when she seemed greatly relieved, and I left her for the night, with orders for total abstinence from every thing except a little oatmeal gruel to drink.

May 19th.—Found my patient standing, and for the first time exhibiting slight symptoms of inflammation. I abstracted four quarts of blood, and gave her sedative medicine.

May 20th.—On visiting her this morning I found her again apparently well, and left her to the care of the groom, with directions as to diet, &c.

May 27th.—Received a note from the owner of the mare, stating she was “as well as ever she was in her life;” yet he wished me to see her before she was put to work, to know my opinion about putting her to the horse.

May 28th.—On visiting my patient this morning I found her to all appearance as well as any animal living; and, as the season was advancing, I at once consented for her to be put to the horse, and so left her to the care of those in charge of affairs.

June 1st.—She was served by a strong cart horse, and received him cheerfully.

3d.—I was this morning summoned again to my patient, the man informing me that she was “ten times worse than ever,” and that he had taken three quarts of blood, and given an antispasmodic drench, &c.; also that she had eaten some small portions of grass, which seemed to make her ill shortly after taking it. I at once told the man that there must be something seriously obstructing the passage of the food from the stomach to the intestines, and that if *flatus* was commenced she would be dead before we could arrive: which prediction proved unhappily too true.

On my arrival, two hours after death, I had her removed to a

suitable place in a field close by. Having had the skin removed, I proceeded to open the abdomen, when the escape of air was tremendous. The stomach was torn in all directions; the whole of its contents were floating in the abdominal cavity. I next proceeded to remove the intestines, and immediately discovered, half protruded through an aperture in the stomach, the huge calculus as above described*. After removing the sternum, and viewing the contents of the chest, which seemed all beautifully healthy, and being perfectly satisfied as to the cause of death, I left the scene.

DOUBLE METASTASIS; FROM BOWEL TO LUNG, FROM LUNG TO FEET.

By Mr. BOUGHTON, Hounslow.

August 13th, 1849.

Sir,—If the following case of metastasis should be considered worthy of a place in your work, it is very much at your service. Perhaps, from its peculiarity, it may be interesting to some of your readers.

I am, Sir,

Your obedient servant,

W. Percivall, Esq.

P. BOUGHTON.

April 24th, 1849, Nine A.M.—A GREY carriage horse, in good condition, five years old, belonging to Mr. Isaacs, was brought to me, suffering from super-purgation, the effect of an immoderate dose of aloes which had been administered on the 21st. The appearance of the animal betrayed great exhaustion. He was continually voiding large quantities of fluid fæces. His breathing was accelerated. His pulse at 90, small and wiry. He was placed in a well ventilated box, clothed warmly, and had his legs well rubbed and doubly bandaged. Creta comp. cum opio was administered in arrow-root every four hours, and in the evening, the second dose not having sufficiently checked the purgation, I gave kino comp. with catechu, in thick gruel. As much gruel was allowed as the animal would drink.

25th.—The purging has subsided; but a violent inflammation has attacked the lungs. The animal breathes very quickly. These symptoms kept increasing in urgency towards the evening. I ap-

* Whereabouts?—ED. VET.

plied a strong mustard embrocation to the sides, and excited the circulation in the extremities by constant hand-rubbing, bandaging, &c.; but finding the disease to be rapidly gaining ground, I resolved, much against my inclination, to bleed. I abstracted four quarts of blood, and on looking at the blood as it stood in the vessel, I was particularly struck by the surface shewing a deep blue or purple colour; and, thinking light or shade had something to do with it, I removed the vessel into the box; but there the peculiarity was, if any thing, more conspicuously shewn. I then had the pin again taken out, and after allowing a few ounces of blood to escape, I caught a tumblerful, which afforded me a good opportunity of observing its colour. The serum and coagulable lymph assumed a dark nankeen colour, the lower part gradually changing towards a blue; and from the time of its separation from the crassamentum, the mass from a light blue gradually deepened to a most beautiful purple, ending, at last, in the most perfect black I think I ever saw blood exhibit.

26th, 9 A.M.—The animal appears easier; though still breathing quickly, with pulse 80, but small and wiry. Repeated the embrocation to the chest. Bowels are quite relieved. Gruel given ad libitum, and the horse tempted with a little mash. In the evening the horse began to shift his feet and shew evident pain, with a perceptible heat over the crust and round the coronets. His shoes were removed, his feet well fomented, and at night both feet were placed in large warm poultices. Febrifuge medicine, consisting of tartarized antimony, resin, and nitre, was given twice during the day. At night, the pulse being wiry, I again bled from the neck to the extent of four quarts: the blood presented exactly the same peculiarities as before noted.

27th.—This morning the pain in the feet is extreme; the animal is continually lying down and groaning. So great is the pain, that he is sweating and blowing from it: when he rises from the ground, he is afraid to bear his weight upon his feet. I now bled largely from the toe of each fore foot: the blood was still of the same character as before. After bleeding, the feet were enveloped in large warm poultices, and the poultices kept continually hot.

28th, 9 A.M.—The animal in great pain in his feet, and is constantly lying down. Poulticing continued, and febrifuge medicine during the day.

At 4 P.M. I was surprised to see what I at first took to be a sudden amendment; for the animal was standing up and moving about totally different to what he had done in the morning: a more close watching, however, convinced me that it was a kind of careless walk, as though moving without knowing where he was going. On examining the eyes, I found that they exhibited evidence of

becoming amaurotic ; before night they were perfectly so. I then bled again with the almost hopeless notions of relieving this state of brain. No relief was obtained from the bleeding ; the animal was perfectly blind, and now shewed no pain whatever in the feet, putting them down as if nothing was the matter. The blood exhibited exactly the same peculiar character as before. The animal continued in this state all night.

29th. No change. Case hopeless. The patient evinces no pain in the feet ; yet is rapidly sinking. He fell at 3 P.M., and while lying he appeared to gradually lose the use of his limbs, dying at 8 P.M. without a struggle.

POST-MORTEM APPEARANCES.

The Intestines pale internally ; and although not shewing inflammation internally, yet the mucous membranes exhibited a dirty brown tinge throughout the larger portion of them, particularly the cœcum and large intestines. The liver was firm, but paler than natural. The stomach shewed no sign of inflammation.

The Lungs were much inflamed or rather congested : the right lobe contained in its centre three large ulcerated abscesses, containing a thick matter of a dirty brown colour, extremely offensive ; evidently the effect of a previous attack of inflammation in that lobe.

Within the *Cranium* the bloodvessels pervading the membranes were much distended, and those of the brain were conspicuously gorged with very dark blood. A large quantity of serum had accumulated, and made its escape during the severing of the head from the body ; it had forced its way between the two hemispheres, and had accumulated at the base of the brain, around the medulla spinalis, and, when the head was raised, a considerable quantity of serum escaped.

The Substance of the Brain proved unsound ; the lateral ventricles seemed to contain an unusual quantity of fluid, and the plexus choroides were loaded with dark blood.

On examining the Feet, I was certainly surprised at the very rapid disorganization that had taken place : all the intervening substance connecting the fibro-periosteum with the laminæ had been destroyed, and its place become filled with the partly decomposed periosteum, and blood, which had been thrown out from the small vessels of the periosteal covering. All union between the periosteum and laminæ had disappeared, and an open space lay exposed to view of nearly a quarter of an inch, owing to their destruction.

Remarks.—The blood drawn from this animal was kept many

days, and found still to retain the same extraordinary appearance, the serum at the expiration of that time being about equal in quantity to the crassamentum. It seems to me a very difficult question to solve how those changes in the colour of the blood were produced;—whether the blood circulated in the vessels of that peculiar colour, or whether these changes were produced by some chemical action of the atmospheric air upon it as it flowed from the neck; or whether the diseased state of the lungs, the presence of abscesses within them, prevented the proper oxygenization of the blood, causing it to assume this peculiar colour. That the blood was in a highly diseased condition there can be no doubt, and probably from this cause arose a want of proper excitement to the heart's action, producing congestion in the lungs, and subsequently, from the blood not being duly returned from the brain, congestion: afterwards, serum was poured out, producing the appearances noted. The case is singular, and to me appears to deserve much more consideration. Many queries now strike my mind, which, if I should have another case of a similar nature, I would inquire into.

REMARKS ON RHESUS' LETTER.

By "OBSERVER."

To the Editor of "The Veterinarian."

Sir,—RHESUS' letter on, and report of the trial "*Hyde v. Davies*," in your last Number, demands a few remarks, and I shall feel obliged by your insertion of this letter.

He considers it highly impolitic to warrant horses sold to dealers. Perhaps it may be so; but he must be aware that the seller invariably obtains a large increase of price in consequence, frequently thirty per cent., and occasionally more, and is therefore induced to run the risk of having them returned, the buyer paying the additional price for the security; for it must be very evident that the opportunity offered to the dealer to examine horses at the breeders or at fairs, so as to ascertain the real state of their soundness, is very slight indeed.

So far from public opinion being adverse to the vendor if he be the breeder, the reverse is the fact; and that people look on the dealer (*him who pays license*) as a rogue, and on the breeder and rearer (if he pays no license, although he buys and sells as many horses as the man who *does pay*) as an honest and injured man.

As the parcel of (so-called) tailors or sworn twelve, in this as in

other instances, were not packed or selected to try this particular cause, but were empanelled for the day, and considered competent to, and did try and decide upon causes fifty times more important and intricate than this one, Rhesus' remarks are in bad taste. It is a well-known fact, that, in the opinion of the bench and bar, juries in this part are quite equal in mental caliber to any obtained in other circuits; and it is very evident that in this instance they placed the saddle on the right horse, and that Rhesus, by making his coarse remarks, is aiming a blow (whilst writhing under defeat) at trial by jury.

I shall pass over his report of the trial up to the remark that "Professor Dick was cross-examined by Mr. Sergeant Wilkins without effect." I deny this *in toto*. The greatest possible effect resulted. *Mr. Martin, Q.C.*, proved himself in this case no match whatever for his learned friend, who, in addition to his being a first-rate lawyer and judge of human nature, has an extensive knowledge of medical science. He lost his temper, and appealed to the judge to be allowed to see a book which had been put into the hands of Sergeant Wilkins, and which he playfully refused until desired by his lordship to shew it. He then did so, remarking that, when he does see it, my lord, he will not like it. A short perusal of a letter from Professor Dick, in *THE VETERINARIAN* for June 1844, page 355 (for that was the book in question), was sufficient. Mr. Martin dropped it, in the learned Sergeant's words, like a "*hot potatoe*."

* * * The concluding remarks of "Observer" are personal.—
ED. VET.

ON SHOEING HORSES.

By ARTHUR CHERRY, *M.R.C.V.S.*

To the Editor of "The Veterinarian."

Sir,—IN the two last Numbers of your Journal there have been given a series of experiments to shew or to prove the real action of the foot of the horse: perhaps I should say, an attempt has been made; for I have in vain sought for any thing like an elucidation of any point not hitherto explained, or any better explanation of what was before known. Such attempts as these, however they may be fine-drawn or varied, do infinite mischief to the advance-

ment of our art—tend to make that which is clear and easy of comprehension obscure and complicated—lead astray the mind—and reduce the beautiful simplicity of Nature's works to the level of a mere machine, the work of man's hands.

Perhaps we need not wonder at the fanciful theories on the foot and on shoeing which are constantly being put forth, when we consider that the large mass of authors and projectors are, properly speaking, in great measure ignorant of the subject; that is to say, they do not combine that knowledge of the structure and physiology of this part of the animal with the dirty, disagreeable, and hard work of practical shoeing: it is but rare that these are found combined, and, when they are, still more rare is it that the results are given to the world.

Of the knowledge of the structure of the foot without understanding the shoeing, no more eminent instance can be adduced than the late Professor Coleman. Is there a single invention put forth by that gentleman as an improvement in shoeing now being carried out? Have we made any real advance from the habits or work or forms of our ancestors, the "farriers?" Not any worth mentioning. A piece of iron has to be made to the shape of the foot, and fastened thereto with nails driven through the crust. The drawing-knife has superseded the buttress; but, after all that has been said respecting it, it is not by any means clear that the buttress was such a devil-formed implement as it has been the fashion of late years to depict it. It still is any thing but made out that there was of old a larger proportion of horses lame from shoeing than there is now: of course, making all due allowance for the increased liability from the harder roads and the quicker pace, I am satisfied that there is not any sensible difference.

A shoe is well hammered, well filed up, and is a good specimen of workmanship; and yet the poor animal cannot *go* at all in it, though the nails may be well and skilfully driven, and the whole, when finished, both neat and workmanlike: the foot so shod is taken up, examined, the shoe taken off and re-applied, with the impression that there is nothing in the foot to cause lameness. Of this kind of shoeing this town abounds with instances; yet they pass unheeded, or to the mass are unknown; while, on the other hand, we see the roughest, clumsiest shoe (condemned, and very properly so, for its bad workmanship) applied in the place of the former, and the horse goes sound. This simple fact, of daily occurrence, I have never seen alluded to;—no notice taken of it, no explanation of its causes, or, in fact, in any way adverted to: the directions for shoeing leave so wide a margin for inference, that, if we had scarcely any or none at all, we should be hardly less clear.

This one of the most important points of a veterinary surgeon's duties is neglected, is left to the tender mercy of the ignorant shoeing-smith, or, what is as bad, the groom or jockey. The bulk of veterinary surgeons know but little about it. An attempt has been made, through the examinations, to cause this to be better attended to; but still it is not taught: the letter of the requirement is attempted to be attended to by the merely taking off a shoe, paring a foot, and nailing on the shoe again, most probably in the old holes. But the spirit of the requirement is left untouched: if a man intends to be a shoeing-smith he must go into a forge and work out a fair apprenticeship: but this is not wanted of a veterinary surgeon; he is not called on to exercise it, at all events in this kingdom. I can speak on this subject with confidence, because in my youthful days I learnt that branch of my art, and can to this day turn to with the leather apron, and work the turn with other men, either at the foot or the anvil; but, with the rare exception of having now and then to take off or put on a shoe, or to make one fast in an emergency in the absence of a farrier, I have not had occasion to employ this knowledge for more than twenty years, except for whim or caprice; it is not, therefore, requisite to possess it: but this knowledge has taught me the functions of the different parts of the foot, as well as in what good shoeing consists; it has shewn me in what manner the feet in their different varieties ought to be shod—to discriminate between the well *fitted* shoe and mere well *finished* shoe: in fact, it has given me that, as the result of my own labour and reflection, which I ought to have had taught me in our Veterinary College, and which could as well have been taught me, without my ever having on the leather apron, as with it. To those of my veterinary compeers who have had the advantage of being brought up in connexion with a forge I shall be perfectly understandable; and to those who have not, I can only regret that they should have been so unfortunate as not to be practically acquainted with this important subject.

It does not require a man to be a good cook to understand a good dinner, nor to be a good tailor or boot-maker to know a good fitting coat or boot; but it is required in each instance that a man should have that degree of training or teaching that he may know in what the goodness consists: so it is with a veterinary surgeon and the shoeing of the horse's foot.

It happens that every keeper of horses can more or less quickly find out when his horse goes well or ill after he has been shod; and hence, if he has been in the habit of sending his horse to be shod at a forge belonging to a veterinary surgeon, and finds that his horse does not go well, he hears of some "farrier" who is

famous for good shoeing. The horse goes there—the fitting is better attended to—the horse goes better—the “*farrier*” is at a premium, the “veterinary surgeon” at a discount. The fact is demonstrable, clear to every one :—ergo, if he is thus clever in what can be seen, he must be clever in whatever else relates to a horse ; and now we have the “farrier” also called in to treat the internal diseases : and this is the reason why shoeing and “doctoring” so frequently go together, and why the farrier is such a rival of the otherwise educated practitioner.

So long as this is allowed to continue, so long will the farrier be the powerful opponent—so long will he be held in estimation akin to the better man. It is, therefore, requisite that this branch of every-day knowledge should be taught and *understood*. What are our schools for but to teach these things ? Is there any thing in the shoeing which renders it more difficult of teaching in a proper class-room than anatomy or any other branch of the art ? Not a reason exists. It is important that the way to take off a shoe, pare out a foot, and put on a shoe, should be known : for those destined for the army this should be carried much farther, and should be insisted on as a *sine quâ non*. A regiment, or part of one, might be placed in such a position that the capability of its veterinary surgeon on this point might be the means of its safety or of its efficiency ; and it is too important a subject to be neglected in the way it is : the authorities are keenly alive to it, and attempts have been made to make every dragoon capable of shoeing his own horse. This has failed ; but the veterinary surgeon, whose duty it ought to be, is left alone in his ignorance and idleness :—can he teach to others that which he does not know himself ?

Who now regulates this subject in our army ? In the bulk of instances, the commanding officer, the riding-master, or farrier-major. The complaints of the ignorance of the army veterinary surgeon on the shoeing of the horses have been neither few nor far between. I could mention instances, but to do so would be invidious ; so also could I point out where it has been regulated by caprice. This ought not to be : in so important a matter as the capability of marching, no whim or fashion ought to be tolerated ; but this will ever be so until it is taught as a science in a proper manner.

The principles which ought to be known to every veterinary surgeon are those which an intelligent farrier knows ;—what kind or character of shoe is most fitted for the description of foot—whether it should be wide or narrow, thick or thin, calked, feather-edged, or plain—what part of the crust is best able to hold the nails—whether the sole should be pared much or little, the heels

and bars opened or preserved, the frog pared or left, the hoof rasped thinner or left untouched, the seat of corns pared out or not;—how the shoe should be fitted, whether it should be longer than the points of the heels or not, according to the degree of obliquity of the foot—whether the shoe should be seated even throughout the whole circumference, or be *sprung* at one or both heels—the kind of feet that require a bar shoe; in the crust, whether the nails should be driven high or low, that is, more or less obliquely—whether the toe will bear shortening or the heels lowered:—all this an intelligent farrier can tell with tolerable correctness at a glance; and if he can, knowing nothing of the structure of the parts, why should not a veterinary surgeon know it also? There is no mystery in all this; it is perfectly easy when properly taught. Let a teacher demonstrate these points, and examine the student by putting a foot before him, and, if he is wrong in his idea, let it be pointed out: plenty of feet can always be procured from the slaughterers, and a few lessons of this description would soon make an important alteration in this necessary branch of our art.

In my next communication I shall inquire more particularly into the nature and results of Mr. Gloag's experiments, and endeavour to trace how far they agree with the facts as daily exemplified in the forge and on the road.

I am, Mr. Editor,

Yours, obediently,

ARTHUR CHERRY.

July, 1849.

MAGENDIE'S EXPERIMENTS—THE INFLUENZA IN HORSES.

By EDW. MAYHEW, *M.R.C.V.S.*

SINCE I last had the pleasure of addressing you, I have received a letter inviting me to meet M. Magendie at the house of a well-known physician. It would have been my wish to seize any opportunity of shewing courtesy to a foreigner; and any little information I may possess is, in my eyes, only a trust held for the general benefit of mankind. I have no secrets, and desire to practise no reserve; but there are individuals towards whom I cannot stoop to pretend respect. M. Magendie has made himself notorious by his cruelties. He has lived amid the cries of the animals he has, under the sanction of science, tortured. Vivisection has been the life-pursuit of the man, and his deeds have taught

me to detest his name. As a physiologist I esteem him a bigot, and as a man I hope he is no worse. He has established nothing, but he has confused much. He will die to be forgotten, and I cannot while he lives respect him. That he is a mistaken man I hope—I even feel certain he is deceived: for it is impossible, at least it is impossible to my idea, that any human being in a sane state should imagine the secrets of Nature are to be forced from the sufferings of her creatures. The dog has principally been M. Magendie's victim. The animal he has selected for the display of his heartlessness proves at once his cowardice and his want of sensibility. Without feeling and without courage man is but an intellectual brute; and in him the highest gift of his Creator only adds to his guilt or his shame. If the dog would not lick the hand that punishes—if the generous and trustful animal did not, in the nobleness of perfect submission, trust entirely in the charity of man—if it had been less affectionate, less confiding, or less enduring, then M. Magendie had not made it the subject of his so-called but mis-termed experiments. I have read his inhumanities: I have endeavoured to ascertain what fact or principle they illustrated. I have studied till my health has gone; but, from all that person has attempted to demonstrate, I profess myself to have learnt nothing. I have to thank him only for time wasted and labour thrown away. All his writings have impressed me with disgust for him personally as an individual, and contempt for his claim to be regarded as a physiologist. He has notoriety without solid reputation, and I could not, without consenting to play the hypocrite, consent to meet the man. My refusal to sit in his company may be of little consequence; but English veterinarians are in nothing more distinguished than in their observance of the dictates of humanity; and, as I hope many beside myself have declined a similar invitation, I give, with your permission, publicity to my reasons, in order that, right or wrong, my motives may be on record.

Now let me turn to matter of a more pleasing character. In your last Number, in the leading article, entitled "Observations on the existing Influenza among Horses," I was delighted to read the following remark: "And this paroxysmal accelerated breathing we have seen more remedially tranquillized by *ether* than by blood-letting." I thank you sincerely for the generosity which dictated the lines. When I ventured to bring before the notice of my profession the medicinal properties of ether, you were among the very first to test the truth of my observations. Since you gave publicity to that result, no one has recorded any circumstance either in support or in contradiction of my assertions. In the first instance, you will remember your own inferences were opposed to my con-

victions. Your politeness forbid you to say my assertions were not well founded ; but the case which you fairly stated led to such a conclusion. Ether was then at first, in your hands, of no marked benefit ; and is there a drug which will at all times be equally successful in its operation ?

It is something to rejoice over, however, when one who has on the onset been repulsed : nevertheless continues his inquiry ; and because you have done this, I have to acknowledge my sense of obligation. It has been my desire that you of all men should put to the proof the truth of my evidence. I have in conversation endeavoured to induce you to make further trial, and I am thankful for the testimony you now bear in favour of my veracity.

Ether I have found to be the best and only medicine appropriate to those conditions which the groom means to indicate when he comes in haste to report "The horse is blowing." At the London College it is taught that, to meet such symptoms as congested membranes, sluggish pulse, and accelerated breathing, a stimulant should be administered to give tone to the circulation, and when the artery has acquired force that the vein should be opened. I never could comprehend this formula for lifting up simply to knock down. It becomes difficult to understand the principle on which a thing is to be accomplished merely to gain the opportunity of undoing it. It seems by such see-saw action impossible to make way, since at the end we are only brought to the point whence we originally started. Blood-letting, for its own sake, is not to be desired ; but what else is gained when a stimulant is exhibited to heighten the pulsation, and a fleam is employed to lower it again ?

All cases of blowing, however, do not display the same symptoms. Very often the breathing is fast and even noisy, while the membranes are only brighter than usual, and the pulse taken at the jaw is frequently both quick and strong. Here, perhaps, many practitioners would say "Bleed, and bleed largely without loss of time." It is not my practice so to do. I never bleed when the pulse is accelerated by such a condition. I regard it as an injunction not to take blood. The membranes, both Schneiderian and conjunctival, I have learned to regard as no absolute proofs of the condition of the arterial system. This remark, however, must be taken only in its general application ; and to such an extent I am prepared to defend it. The greater number of the pulse I am convinced is evidence of weakness rather than of inflammation, and the animal in which it is detected requires support rather than depletion. Therefore, as a rule, I never bleed to a quickened pulse : that is, when the pulse is higher than ten or fifteen beats above its normal standard. This is with me a law, and hitherto I have had no reason to regret my observance of it. There is,

however, no rule without an exception, and consequently I do not pretend to condemn those who in particular cases have seen good reason to follow an opposite practice.

Quickened breathing in the horse answers to panting in the dog; and in that animal, which the will of the public brings so frequently under my notice, I have always found it to be an indication of debility. Venesection is generally resorted to in order to subdue it, and most horse-proprietors are inclined to look complacently on the operation. If the horse is bled, the popular notion that every affection must be inflammation, and being of that character calls for immediate depletion, is propitiated. I was lately called to see a horse, the prominent symptom exhibited by which was hurried breathing, the respirations ranging between seventy and eighty in a minute. The animal had been thrice bled for the purpose of relieving the lungs, and the proprietor was anxious the life should be further drained, although the repeated experiment had produced no good effect. I advised no further abstraction, but frequent doses of ether combined with laudanum; and the patient, contrary to my expectation, ultimately recovered under that treatment.

A safe and effectual mode of practice for cases in which shivering and blowing are the obvious or external symptoms, was with me for a long time a desideratum. The recognized practice I had no faith in, for it did not satisfy my reason; and by its results it did not compensate for its seeming opposition to sound theory. Having tried many things which appeared likely to answer, I at length made an experiment with ether; and from the day on which I witnessed its efficiency I have never in such cases abandoned it. It seems to invigorate the system—to render the surface of the body warm—to calm the mental irritability, and to check the tendency to inflammation.

In cases of influenza, however, it will be found to be of the highest value. That disease has lately been very rife in London. It has assumed various forms, and the old character of the disease has undergone an extraordinary change. The practitioner is forced to proceed with the utmost caution, for he knows not in what strange shape the enemy may appear. Other affections frequently seemed to precede it. Thus, a species of rheumatic lameness in one leg would, after a day or two, terminate in influenza. Something very similar to strangles, only confined to one side of the jaw, was by no means an unusual accompaniment of the attack. The nasal membrane was not, as formerly, inflamed, but more generally pallid and discoloured, with only a few lines of redness here and there. The conjunctiva was seldom deep in tint, but generally the reverse, though invariably slightly yellow. Sore mouth has not been unusual, and ulceration of the fauces has occurred. In one case I was

called to spasm of the glottis was exhibited, and even to such an extent that I seriously contemplated an operation for the animal's relief. Inflammation of the lungs influenza has had a great disposition to simulate, and in several cases I have witnessed the disease to be attended with colic and obstinate constipation.

It would be vain to attempt to numerate the various characters the epizootic has taken on; for so altered did it become, that Mr. Gowing, of Camden Town, for whose practical skill I entertain the highest respect, assured me he hardly knew how to tell when influenza was or was not present. Few men could afford to make so candid a confession; but that gentleman is by talent and experience placed in a position which allows him to acknowledge no interest but in truth. To him I am indebted for my attention being directed to the only symptom on which any dependence could be placed. All the recognized indications of influenza—the signs by which it had been formerly known and readily recognized—were mostly absent or confused. The head and eyes seldom swelled. The legs more frequently enlarged; but these were not commonly swollen. The discharge from the eyes and nose was rarely seen. Cough was mostly present; but in several instances even that was heard only when the acute stage had subsided. The pulse at first was not to be relied upon; but towards its termination it was always quick and feeble. Then, under such circumstances any sign, however slight it might be, which gave a reasonable ground for suspicion, was of the greatest value; and for the aid afforded by Mr. Gowing's observation I can confidently assert I have many obligations to confess.

When influenza is present, before the disease is well marked, and prior to the existence of the debility by which the true nature of the affection is absolutely recognized, the liver is deranged. The peculiar tinge of the conjunctival membrane enables us to detect this circumstance; and where that condition of the biliary gland has been indicated, however slightly, it has been with me, of late, a habit to treat the horse in which the symptom is observed for influenza, although apparently the animal was suffering from a different cause. I will not go so far as to declare this rule to which I have adhered may not have sometimes deceived me; but I can positively assert that I have no reason to repent the course it has induced me to pursue. This will be understood and admitted when I explain in what my treatment has consisted, and the reader is aware that the measure proper for the disorders which the prevailing disorder so frequently resembled would, by their activity during influenza, have proved fatal.

The chief reliance I have placed on ether combined with laudanum, in equal proportions. In a former communication I proposed

very large doses of these medicines; nor am I even now convinced that in such quantities they are not beneficial. The larger doses of four and six ounces appear to act more energetically, and to require less frequent repetition; but our employers object to costly drinks, whereas they willingly pay for many separate items. The duration and the expense of the treatment may possibly be increased; nevertheless, the bill, experience has proved, is more pleasant to the party principally concerned, and, of course, we, as the servants of the public, must humour the caprice of our employers.

I had the charge of a stud of omnibus horses which I treated according to my original plan, that is, with the large doses. There were thirty-four horses, all of which exhibited the disease, and upon the average they were not kept from work above three days, and not a single death occurred, neither was a single case left which required subsequent nursing.

On the more saving plan, the horse has remained weakly for a fortnight; but that period has not been exceeded, and under the last method not a single death has taken place.

When called to see a case, no matter what may be the report, when influenza is prevalent, I first examine the patient as to the general health, and endeavour to discover the presence of the disorder, which we know can appear in almost any disguise. If I think, for rarely can we in the first instance be assured, the epizootic is at hand, I give a drachm of calomel, which is emptied upon the tongue, and after that a draught consisting of an ounce and a half, or two ounces, of sulphuric ether, and the like quantity of laudanum, in sufficient cold water to wash the powder down. If, in a couple of hours, no relief is afforded, both medicines are repeated; but if the violent symptoms abate, four of the draughts and powders are administered daily.

The drink I must, however, here state, seldom consists entirely of the agents I have named. Other medicines suggested by the symptoms, are combined. When fever prevails, nitre and antimony are introduced, but in small quantities. When the pulse is feeble, the preparations of ammonia are employed, and sometimes stimulating tinctures resorted to. Then, when the arterial system is excited, the tincture of aconite is used; and if the mouth be particularly dry, or the tongue unusually harsh, a little of the decoction of Indian tobacco is combined. The drinks, therefore, are not simply ether and laudanum, but are composed of various medicines, such as appear suited to each case, and such as experience readily suggests to the practitioner. Ether and laudanum are, however, always present; and when the necessity for employing other agents no longer exists, these are persevered with, and in every instance preceded by calomel, though in diminished quantities.

Where the bowels are affected with colic or impactment, I adopt the practice which you have taught me, and most satisfactory have I found its results. The four daily drinks I give, but with them I administer frequent small doses of calomel ; and a man sits up to give these regularly throughout the night until the intestines are emptied. A scruple of calomel has been exhibited every hour for fifty-six hours before that effect was obtained ; and though the animal thus treated was not more than fourteen hands high, the gums did not inflame. Embrocations and enemas were not neglected, nor any of the ordinary practices unemployed.

As to food, mashes I do not approve of in influenza. Grass or roots, moistened hay, and the full allowance of scalded oats with good gruel or whitened water, *ad libitum*, is the diet I recommend. If the horse will not feed, I do not order it to be drenched, but invariably leave the appetite to nature, and hitherto have not found the animals fall away to any obvious extent.

When the disease subsides, a fact which is ascertained by the small, quick, and feeble character of the pulse at the jaw, a drink and powder is given night and morning, while the best stout that can be procured is substituted for all other medicines. Three and four quarts have been exhibited in the course of the day, when the horse enjoyed the beverage ; but where there was much resistance I have thought the excitement more prejudicial than was counteracted by the liquor, and tonic balls have been used instead of it.

Such is an outline of the practice I have for some time pursued, and have endeavoured to the extent of my opportunities to test. No mention is made of several particulars, such as attention to the extremities, cool loose box, clothing, &c., because these things are generally understood, and with regard to them I do not deviate from the general custom. It will be seen I never employ purgatives, diuretics, or blood-letting. Soft food of the most nutritive kind is not withheld, and the medicines principally relied upon are calomel, opium, and ether.

The testimony of no one man, however, can be viewed as conclusive when the treatment of disease is concerned. No matter how wide may be the range of individual observation, until it be confirmed by the testimony of others, no conclusion based upon it ought to be accepted. The course I have related has hitherto appeared to be successful ; but it is possible my discernment may be at fault, or to Fortune I may be indebted for those results which I attribute to other causes. Therefore, I seek the information of my professional brethren, and invite them to test that plan of treatment which hitherto has left me nothing to regret.

Before I conclude, however, let me point out one instance in

which the treatment I have mentioned does not answer so well as in the generality of cases. When the cough is particularly sore, and laryngitis the prominent symptom, then the ether drink appears to occasion so much suffering that its administration becomes objectionable if not dangerous. The horse resists violently, foams at the mouth, coughs spasmodically, and breaks into profuse sweats; consequently it becomes prudent to change the treatment. The calomel in frequent doses I persevere with; but instead of the usual drink, I give half a drachm of the extract of belladonna rubbed down in two or four ounces of water, every third hour; and this quantity I do not find produces any unpleasant consequences; but in two or three days the affection yields, nourishing food not being denied.

I remain, Sir,

Your obedient servant,

EDWARD MAYHEW.

16, Spring-street, Westbourne-terrace.

PROFESSOR SIMONDS' LECTURE.

To the Editor of "The Veterinarian."

Sir,—MAY I beg the favour of you to insert the following remarks in the forthcoming Number of your excellent publication?

I am rather surprised, considering the importance of the subject, that no notice was taken in your last of the Lecture delivered upon "Pleuro-Pneumonia" by Professor Simonds before the members of the Royal Agricultural Society, at their meeting at Norwich*.

Being present at the time, and having heard the lecture, I feel that I should not be doing myself justice were I to remain longer silent upon the subject (having last year had the honour of gaining the Society's Prize for the best essay upon the disease in question), as the learned Professor in his address offered opinions upon its nature which were totally opposed to those expressed in my essay. It is not my intention to attempt any thing like a report of the Professor's lecture, but merely to confine what few remarks I am anxious to make to those portions of it which are directly opposed to my views; and I think I shall not shoot very wide of the mark if I say, those of the majority of the medical public at large.

Professor Simonds, after giving a very elaborate and prolonged description of the respiratory and circulatory systems, proceeded to

* Quite the contrary. Mr. Waters will see (in our present Number) that we have availed ourselves of the *earliest* opportunity of printing "The Lecture;" and shall feel happy to have his consent to publish a corrected version (if correction it needs) of his "Prize Essay."—ED. VET.

treat upon the epizootic. And first he quarrelled with the nomenclature, contending that the term "pleuro-pneumonia" conveyed a wrong idea as to the part principally and primarily affected, inasmuch as it gave us to understand that disease of the pleura predominated over that of the lung, the word *pleuro* being placed first in the compound term. According to his (Professor Simonds') notions, it would have been more correct to designate it "pneumo-pleuritis," the lung being the earliest and principal part affected. Now I have always been in the habit, and I think most others have also, when explaining the meaning of this and other compound words, of looking upon the first as having an adjective sense, and upon the second as the substantive, or most important of the two: the first qualifying, as it were, the latter. The word pleuro-pneumonia, in my opinion, indicates that the disease of the lung precedes and predominates greatly over that of the pleura, and *vice versâ*; and Dr. Watson, in his Lectures, gives the same explanation of the terms. Now, if this be correct, then Professor Simonds, by giving the disease a fresh "*christening*," if I may be allowed the expression, has fallen into the self-same error he so carefully endeavoured to guard others against. This, after all, is a matter of little moment, as far as the treatment of the disease is concerned: he may truly say, "What's in a name?"

But that which gave me no little surprise in his lecture, and to which my principal object in making these remarks is to allude, was an assertion he made, to the effect that the disease was not of an inflammatory character at all, but was dropsy of the lung. Now, after reversing the order of the two words composing the term pleuro-pneumonia, and still retaining the Greek termination *itis*, which indicates inflammation, I must confess I was not prepared to meet with such strange anomalies of nomenclature.

As to the question of dropsy, had there ever been discovered by post-mortem examinations merely effusion of serum into the substance of the lung and into the cavity of the pleura, with the absence of inflammatory symptoms during life, then a probability might have existed in the mind of the veterinarian of the disease being of a dropsical nature; but, unfortunately for the Professor's theory, facts presented to the notice both during life and after death, prove a decidedly inflammatory action. I do not mean to assert that dropsy cannot result from previous inflammation; that would be absurd.

I never yet made a post-mortem examination (and I have made many in this disease), where I did not observe most unequivocal appearances of previous inflammation, such as the marble-like arrangement of thick lymph occupying the interlobular spaces of the lung, the substance of the lung itself presenting all the various appearances and stages of hepatization, and frequently abscesses;

the pleura itself, too, coated by layers of lymph, obtaining, as I have repeatedly seen, to an inch in thickness; the cavity of the pleura occupied by variable quantities of serum, with huge masses of lymph floating therein.

And again, upon directing our attention to symptoms during life, we are furnished with additional proof of the inflammatory nature of the malady: for instance, heat of horns—dry skin and muzzle—impaired appetite—pulse rapid and oppressed—respiration quickened—decreased secretion of milk—and costive bowels, &c. I think no one for an instant can consider the disease to be simply dropsy. To be sure, many of the external symptoms enumerated above may by its advocate be considered those of dropsy; but the post-mortem appearances will at once settle the question.

I cannot avoid alluding to one particular part of the treatment recommended by the learned Professor, viz. that of bleeding: I never yet heard of such a measure being had recourse to in chronic and debilitating diseases such as dropsy, &c.; although, as will be seen in my report on the subject, I look upon it as one of the most efficient remedies in the first stage of pleuro-pneumonia. Offering my best apologies for occupying so much space in your valuable Periodical,

I remain, Sir,

Your obedient servant,

GEO. WATERS, Jun.

Corn Exchange Hill, Cambridge,
Aug. 17, 1849.

Home Department.

PROFESSOR SIMONDS' LECTURE

ON THE

ANATOMY, PHYSIOLOGY, AND DISEASES OF THE ORGANS OF RESPIRATION IN THE OX:

With especial reference to

PLEURO-PNEUMONIA.

Delivered before the Royal Agricultural Society on the occasion of their recent Show at Norwich.

THE Lecturer commenced by observing, that, pursuing the course which he had hitherto adopted in addressing the members of this society at their annual meetings, he should not presume to trespass unnecessarily upon their time by bringing forward matter which was altogether of an introductory character. To speak of the great and rapidly increasing benefits which arose from

these periodic meetings, however inviting such a subject might be, was a work of supererogation; for all were ready to admit, from the Prince of royal blood to the humble plebeian, that they exercised an important influence, both socially and morally, over our rural population, and contributed in no small degree to our national welfare. In directing their attention to the general arrangement and uses of those important parts of the animal organism of which he had to speak, it would be necessary to take a rapid glance at the process of digestion, for the purpose of placing the office of the lungs in a clearer light; as here we trace the formation of the blood from the food, and the progress and changes that fluid undergoes till it enters the heart; and although he should have chiefly to describe the respiratory organs, still it must be obvious to all, that he must commence by shortly explaining the origin and circulation of the blood.

During life, the continued demand for new material, to supply the waste of the tissues which arises from a variety of causes, called forth or gave rise to those sensations which we designate hunger and thirst. Both the quantity and quality of food which was partaken of would, however, depend on the habits and conformation of the animal; but in all it underwent a successive series of important changes. In the mouth it was masticated or divided into smaller masses, during which time it was also insalivated; it then passed over the tongue, and descended the gullet into the stomach, where it was acted upon by the gastric juice, and he might remark, that this action was chemical: in other words, the food was here digested. The Lecturer then proceeded to explain the different changes which the nutritive parts of the food underwent after passing from the stomach, until it was formed into blood, and referred to drawings of some of the organs through which it had to pass during its transformation. He then observed that it would likewise be necessary to explain the constituents of which the blood was composed, prior to directing their attention to the action of the lungs, as the central respiratory organs; for unless they possessed some information upon this point, they could not rightly understand their functions. Blood might be defined to be a fluid circulating through the heart, arteries, and veins, carrying the materials of life, renovation, and secretion; building up the system in the young, and supplying the wants of the frame in the old animal. But it not only circulated through the system for the purpose of building up every part, but also to maintain heat in the animal—all animals possessing the power of maintaining a heat of their own independent of the atmosphere around them. The heart might be designated the central pump from which the body derived this fluid; the arteries the transmitting, and the

veins the returning conduits. In vertebrated animals this fluid was of a red colour, but in the invertebrated it was colourless. While circulating it appeared to be a red homogeneous fluid; but upon being drawn it separated into solid and fluid portions, and, if analysed, it would be found to be made of dissimilar parts. It contained, in reality, four chief components—fibrin, albumen or serum, corpuscles, and salts, each of which had an important part to play in the system. The redness of the blood was found to depend altogether upon the presence of the red particles; remove these, and it would become colourless. Blood, when drawn from an animal, coagulated, and this coagulation depended upon the presence of the material called fibrin, and by the amount of this they could ascertain its nutritive quality. After the blood had stood for some time, a fluid appeared on its surface of a pale yellow colour, the serum, which possessed no power in itself to coagulate, and had a specific gravity a little above that of water. Serum, although in reality a fluid, contained an important element, which was capable of undergoing solidification, but not spontaneously. This was albumen, which it was well known solidified by heat; and if he were to expose some serum to a heat of 160 degrees it would coagulate. It would also coagulate by an admixture with the mineral acids. [The Lecturer illustrated this by mixing some acid with a quantity of serum in a glass jar.]

He next proceeded to notice the constituents and qualities of fibrin, which was obtained from the blood before it coagulated. It might justly be described as the basis of the animal machine. It formed plugs in cases of hæmorrhage, and temporary bonds in fractures. It was self-coagulating, white in texture, tough and elastic. It was found to exist in a larger relative quantity in arterial than in venous blood, because the arteries appropriated a quantity prior to the passage of the blood into the veins, thus shewing how important fibrin was to the support of the system. He then spoke of the red particles found in the blood, and which gave colour to the fluid. There were thousands of these bodies in a drop of blood; but they were so minute that they could not be discovered without the aid of the microscope. It was formerly supposed that there were certain parts of the body the blood in which did not contain them, and that the eye was one of those parts; but modern research had disproved this position. It had been found that the blood in the eye was supplied with these particles, but not in sufficient quantity to colour it. The microscope, as before stated, was necessary to develop their existence, and when thus examined they were found to be flattened discs, varying in size from the 4500th to the 2800th part of an inch. They might take the general average size at the 3000th part of an inch. These

bodies were of greater specific gravity than the other parts of the blood, which was shewn by the fact, that when the coagulation of the blood was delayed, they settled to the bottom of the vessel. They were intimately connected with the health, strength, and vigour of an animal; for they were found to exist in a less proportion in the blood of an animal in ill health than in that of a robust one. The blood of a lean animal was also said to contain a larger quantity than that of a fat one. They were important also for another reason; animals, as he had already stated, possessed a power of keeping up a heat independent of the atmosphere, which was called *animal heat*, and it might be said that this property was in part owing to these bodies.

The blood on entering the lungs became impregnated with the oxygen of the air which we breathed, and the oxygen supplying the place of the carbonic acid gas, caused the colour of the fluid to be changed. The Lecturer pointed out the mode in which the blood passed into the heart, and from thence into the arteries, by reference to a coloured drawing. The change which the blood underwent in its passage through the system was very important, as it then parted with its superabundance of oxygen by its union with the carbon, and thereby heat was produced. The carbonic acid thus formed, was got rid of during the process of respiration. Most of them were aware that chalk was a carbonate of lime, and they knew that carbonate of lime was not very soluble in water. The Lecturer exhibited some transparent lime water in a glass vessel, and by means of a tube he blew into it, when it was found that by mixing with the expired air from the lungs it became opaque. This experiment shewed that we had carbonic acid gas eliminated from the lungs in the act of respiration, and that this united with the lime in the water and formed it into a carbonate of lime. It was necessary that he should dwell briefly upon this part of the subject, because it had at one time been supposed that the carbonic acid gas exhaled from the lungs was formed by the oxygen breathed into the lungs uniting with the carbon of the blood in those organs; but this had been shewn to be incorrect, an interchange, but not a union of the two gases he had named, alone took place. The Lecturer then demonstrated the change which was produced in the blood upon its entering the lungs and becoming impregnated with oxygen, by pouring some oxygen upon a small quantity of black blood contained in a bottle. Immediately the blood assumed a bright red colour. The circulation through the lungs, he observed, was the great cause of the arterial change in the blood, while its passage through the capillaries of the system was the cause of its undergoing what was called the venous change.

Many functions of the animal system might be stopped for a considerable time, but not that of respiration. This could only be

suspended for a short period. If we held the breath, we were compelled very shortly to resume the act of breathing, a fact which depended partly upon, and consequently demonstrated that there was, an accumulated quantity of carbonic acid gas in the system which it was necessary for the preservation of life we should exhale. The central organs of respiration were called the lungs, and were placed in a cavity which was described as the middle one of the frame. There were three great cavities formed by the skeleton of the animal—the first, or cerebral, which contained the brain and the nerves of sense; the second, or thoracic, which contained the lungs and the heart, the chief organs of respiration and circulation; and the third, or pelvic cavity, which in females contained the organs of generation. The thorax or chest, although formed by the bones, had these arranged in a different manner from the other two cavities, it being necessary, in order to allow of the expansion of the lungs in respiration, that the bones of this cavity should give way, and therefore they found that the ribs were united to the trunk by means of moveable joints and elastic cartilages. In this was found a beautiful provision of nature, for although the bones were required to protect the cavity from injury, they were made sufficiently moveable to allow of the expansion of the lungs in the act of respiration.

After explaining the action of the lungs and some of the other organs of respiration, he observed, that we might suppose these structures had no other part to perform, but that, if we closely examined them, we should find that they discharged a double office. The windpipe conveyed the air to the lungs. The upper part of the windpipe was called the larynx, which presented the same general appearance in all animals, although it was modified in order to suit the tones uttered by each. It was composed of a number of cartilages; and if they directed their attention to the different sounds which were expressed by different animals—the braying of the ass, the neighing of the horse, the bellowing of the ox, the bleating of sheep, the barking of the dog, and the grunting of the pig—they would at once perceive the necessity which existed for the variety of formation that was observable in the construction of the larynx of these animals. The larynx was the organ of voice, and received the air as it was about to enter the windpipe, and also the air expelled from the windpipe, before passing from the mouth and nose. The larynx, then, communicated with the windpipe, which was likewise composed of cartilages, arranged in the form of rings. Cartilage was pliable and tough, not liable to be put out of order by natural means, and was, consequently, often used in the place of bone. The interior surface of the windpipe was lined with what was called a mucous membrane, the object of which was to shield the windpipe from the action of the

atmosphere. It extended into the divisions of the tube, called the bronchi, and was lost in the cells of the lungs. This was not unfrequently the seat of disease. They had all, doubtless, heard of bronchitis, inflammation of the larynx, and common catarrh.

He pointed out, by means of a drawing, the passage for the air from the mouth and nostrils to the lungs, until it terminated in what were called the air-cells. With respect to the lungs themselves, he observed that they would require a very short description. They might be termed light, spongy bodies filled with air-cells and vessels, and covered with pleura. A considerable quantity of elastic tissue entered into their composition, and it was also evident that a certain amount of contractile tissue existed. The respiratory motion which we perceived when a person breathed, was partly caused by the active operation of those powers, and was not, as had been said, altogether owing to the compression and expansion of the chest. In the act of expiration a portion of the air was forced out by compression of the sides, and the pressing forwards of the abdominal viscera, by the contraction of the muscles. This action ceasing, the ribs, aided by their cartilages, sprung back, and, the diaphragm contracting at the same time, the dimensions of the thorax were thereby increased. The air contained in the lungs by its rarefaction and elasticity caused them to expand, and a rush of fresh atmospheric air down the windpipe into the cells took place to equalize its density. This caused the motion which was felt in breathing. As the chief use of this function was to eject carbonic acid gas from the system, and to produce oxygenated blood, so the quantity of air respired was regulated accordingly. It was impossible accurately to convey any just idea of the quantity of air inhaled and exhaled at each respiration. The quantity of carbonic gas evolved varied from four to even eight per cent.; but the quantity was governed in a great degree by the age of the animal, and its exertions or muscular movements, for he ought to tell them that every movement was accompanied by a corresponding alteration in the condition of the tissues. As an animal underwent increased exertions, in proportion would be the increased quantity of carbon produced in the system; and therefore it was necessary that a proportionate quantity of oxygen should be inhaled by increased breathing, so as to counteract its effects, otherwise death would ensue. This was sometimes shewn to be the result of over-exertion in the case of horses. Hunters had been known to drop down and die in consequence of being unable to inhale a sufficient quantity of oxygen to unite with the carbon produced during their violent exertions.

After dwelling a little longer upon this part of his subject, and illustrating the peculiarities of the organs of respiration in the ox and the horse by a reference to drawings, the Lecturer passed to the

second division of his subject; namely, the consideration of that very destructive disease which had lately affected cattle, and which had produced sad ravages in this country, and, as such, was one which he had no doubt would excite the interest of all present. The name given to this disease was Pleuro-pneumonia; and although there might not be much in a name, nevertheless he thought it right to state, that one more inappropriate could scarcely have been chosen. Pleuro-pneumonia would at once lead medical men to believe that the disease was inflammation of the pleura, extending to the lungs. When, however, he told them that this disease was not, in any one of its stages, inflammatory, he thought they would say with him, that it was one which should not be called Pleuro-pneumonia: the term was calculated to lead to false treatment. He would take a glance at the epizootics which had visited the countries of Europe from the earliest history of man down to the present time. Mention was made of the plagues of Egypt; and we also read of the murrain in the pages of holy writ. Homer, 900 years before Christ, frequently alluded to their ravages in Greece. Virgil, Ovid, and others described their outbreaks in Italy. They were viewed as contagious; but this murrain was not the pleuro-pneumonia of the present day, which by some was considered as a disease of recent date. But whether that be disputed or not, it was a question worthy of their notice; therefore it was on those grounds that he should speak of these epizootics, some of which had visited this country. In 810 they had it recorded that all the cattle in the Emperor Charlemagne's dominions—that was in Germany—were swept off. During the time of the dark ages, the accounts appeared to be very imperfect; but in 1509 there was a recurrence of these outbreaks. In 1514, and again in 1599, beef and veal were forbidden to be eaten by the Council of Venice, on account of its diseased condition. In 1691 sheep were destroyed by thousands, by pustular eruptions in various parts of their body—or small pox. In 1693, pulmonary phthisis destroyed the cattle in Hesse, and vegetables were said to have been affected with the red rust, which was supposed to be its cause. In 1713, Rome and its neighbourhood suffered to an extraordinary extent, and 30,000 head of cattle were said to have died in nine months of malignant dysentery, and with tumours and ulcers on the body. In 1730, Bohemia, Saxony, &c., and in the following year France, suffered much from the prevalence of a similar disease among the cattle.

In 1745, Holland, France, Germany, and England were visited—and in his opinion—by the disease called pleuro-pneumonia. In a little pamphlet written in 1735, by Dr. Barker, the malady was described as an affection of the lungs preceded by a husky cough. Dr. Barker also said that the acute symptoms were

preceded by a dry and husky cough, which lasted for a week or so. In the second stage, the animal lost its appetite—the secretion of the milk was diminished, with increased cough, nasal discharge, weeping eyes, pulse hard, body hot, and the respiration very difficult and laboured. In the latter stage of the disease there was a gradual increase of the above symptoms; purging likewise came on, and sometimes continued for a week or more, and this diarrhœa was often accompanied with the swelling of the paunch. If the cattle swelled, and their flesh became cold, it was a certain sign of approaching death. Now, this similarity with pleuro-pneumonia was important, because the disease appeared to be new to the present generation; if, however, his opinion was correct, and it was not new, it then followed that the disease must have died out or become lost to us from some cause, and consequently that which had occurred once might occur again, and pleuro-pneumonia might disappear entirely from among our cattle. He (the Lecturer) had remarked that the disease described by Dr. Barker exhibited similar symptoms to that of pleuro-pneumonia. Dr. Barker went on to state that, in making a post-mortem examination, “all parts of the animal were found sound except the lungs. In these the bloodvessels were stuffed up, and distended with coagulated blood: they were so much distended as to make the lungs look larger than usual.” In 1760, an outbreak took place in England amongst the cattle, which was described by Dr. Layard as a putrid, malignant, and inflammatory fever. In 1763, England experienced another heavy loss. The digestive organs were the chief seat of the disease—the animals had intestinal worms and flukes in the liver. He had already stated that pleuro-pneumonia was preceded by a disease which was termed the old epidemic or eczema, and that the present disease was regarded as the sequela or consequence of it. He was of opinion that they were two separate and distinct affections, and in no way depended upon each other. It is true that animals that had been affected with the former were sometimes attacked with the latter; but it was also true that many animals which had fallen a sacrifice to pleuro-pneumonia had not been previously affected with eczema. Then, again, it was true that the two diseases existed on the same farm independent of each other. It was also true that eczema attacked the horse, the sheep, poultry, and so on, while the pleuro-pneumonia was confined almost entirely to the ox. Undoubtedly the disease came from abroad, but not by direct importation of infected cattle. It was said that it had been long observed on the continent, whence it extended to England, and shewed itself like Asiatic cholera, and other diseases of a similar kind. It was believed that the atmosphere was the cause; but then came the question, How is the vitiated condition of the atmosphere to be ascertained? They

could only look at the effects that were produced; for if the air was impure, they had no means of discovering its impure particles. The potatoe disease had puzzled the greatest of English philosophers; but its cause and the laws which governed it were alike unknown. The perfume of a bouquet was acknowledged by all to be delightful to the sense of smell; but not a particle of that perfume could be detected by the chemist. Malaria was caused by the sun's rays reflected on marshes and stagnant waters; but the deleterious matter which caused death could not be detected by the chemist if he were to analyse the air. Whether the disease depended on the altered condition of the air, or whether it was occasioned by some deleterious matter emanating from animal or vegetable decomposition, he could not say. It might be by one or both of these causes. The atmosphere might become impregnated with that which was injurious to life, and it was well known that many and great variations took place in it. It was a remarkable fact, that Dr. Prout found, on the 9th of February, 1832, there was a considerable difference in the weight of the air. The Lecturer then directed the attention of his hearers to the Bridgewater Treatise, in which that subject was fully treated upon. Dr. Prout said the weight of the air continued heavier than usual for several days, and was succeeded by cholera. He attributed it to some gases having caused the lower stratum of the air to be displaced. The wind turned from the west to the east, and remained there until the end of February, and the cholera commenced immediately after the change of the wind. He (the Lecturer) did not know whether the same thing had been observed with regard to the present visitation of this disease; but it would be quite sufficient for him to observe, that there was some cause at that time for the disturbance in the atmosphere which altered the weight of the air, and which might have caused the cholera.

Whether pleuro-pneumonia was a disease depending on ordinary infection was a matter of some importance, because it would shew them that they should avoid purchasing cattle that were affected with the disease, or putting them amongst sound animals. It was true that in some cases they could trace the disease to some infected animal; but it was also true that animals had been attacked with it when no diseased ones had been in the neighbourhood. The attack might also be facilitated from an alteration in the food, or bad ventilation of the building in which the cattle stood. It might also arise from the excitement caused by their being conveyed from one part of the country to another, which rendered them more liable to be acted on by the specific cause of the disease. Care also should be taken not to feed the animals on that kind of food which apparently predisposed them to the attack. The question arose, How a deleterious atmosphere could produce such injurious effects? He

had before stated his opinion that this disease was not an inflammatory one, and, in order to explain his views on this portion of the subject, he directed their attention to the diagrams of the lungs of the ox and the horse, and pointed out the difference between the two animals in the arrangement of the structures entering into the composition of these organs. The vitiated air did not directly produce any injurious effect on the lungs; if so, they might expect that the animal would shew it by a cough, &c. The air entering into the lungs, the poison was abstracted by them, then carried by the blood into the system, and produced the most virulent form of the disease by reacting on the lungs. He could not go through all the symptoms or morbid consequences of this affection. What he had said would suffice to shew that in all diseases of this kind, just in proportion as the air-cells become pressed together and the chest confined, so would be the effect of the difficult respiration, ultimately causing death. While this was going on, the oxygen in the lungs did not exercise the beneficial influence which was found in an healthy state, and the blood consequently became more carbonized. This over-carbonization produced other derangements of the organic functions, and principally of the digestive organs; hence the diarrhoea which immediately precedes death.

He next alluded to the treatment to be observed with the affected animal, and first spoke with reference to the propriety of bleeding. Excessive bleeding would be injurious. If the disease was discovered early, he would recommend bleeding, but its extent must depend on the acuteness of the attack. He did not recommend bleeding under the supposition that it would produce a diminution of inflammation; but he recommended it that the poisoned blood might be removed from the system, and thus afford relief to the lungs of the animal. Great care should be taken so that the system was not debilitated, as too much bleeding would weaken the animal, and might produce injurious results. Another mode of treatment was by the application of medicinal agents. The first he would allude to was the exhibition of aperient medicine. The alimentary canal was the means by which we directly purified the blood, and removed injurious matters from the system. Another of the agents which they might employ to subdue the disease was diuretic medicine, and as these did not produce so much debility in the lower animals, the proper use of them was allowable. They ought to give water which was impregnated with nitre. He considered that opium, in combination with calomel, might also be used. They had all heard of brandy and water, and, as a stimulant, it might be efficient. If the animal had entered the second or third stage of the disease a stimulant might be necessary, and brandy would probably be found beneficial; but he should say that the compounds of ammonia

were far preferable, and the best of these he considered to be liq. ammoniæ acet. Great benefit was also to be derived from mineral tonics. They had a large class of medicines from which to choose, and they must choose according to the condition of the animal, and the stage which the disease had assumed. (*Applause.*)

In conclusion he observed, that it must be evident from the description he had given of this malady, that there could be no specific for it. And it was also evident that he who undertook the treatment of such a disease without a knowledge of its nature and of the structure and functions of the organs it affected, was acting like an ordinary artizan who set about the repair of a machine the wheels and levers of which he was entirely ignorant of. (*Hear, hear.*) And now, having completed his task, it only remained for him to thank them for the kind attention he had received. He had made no attempt, by the selection of high-sounding terms or eloquence of diction, to render the subject interesting, preferring to convey to them in familiar language a knowledge of those scientific principles which in practice could not fail to promote the objects of this national and important Society. (*Loud applause.*)

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A FEW OBSERVATIONS ON THE REPRODUCTIVE SYSTEM OF ANIMALS,

HAVING A SPECIAL REFERENCE TO CROSS-BREEDING IN THE BOVINE RACE.

By JAMES M'GILLAVRAY, *V.S. Huntly.*

SECT. I.—*Physiology of the Reproductive System.*

I WISH to draw the attention of cattle-breeders to the physiological fact—‘That when a pure animal, of any breed, has been pregnant to an animal of a different breed, such pregnant animal is herself a cross ever after; the purity of her blood being lost in consequence of her connexion with the foreign animal.’

To many this may appear at first sight a startling announcement; but if the intelligent farmer will patiently, attentively, and candidly accompany me through the following short paper, I hope to be able to convince him that there is a reality in the proposition. Soon after a prolific copulation, the impregnated ovum (the germ of the future animal) is separated from the ovary, and, being grasped by the fimbriated edges of the Fallopian tube, descends through that channel, and enters the corresponding horn of the uterus. After

conception, the impregnated uterus throws out a coating of effused lymph; this coating wholly covers the internal surface, shutting the os uteri, and forming the whole into one closed cavity. In this peculiar condition the uterine mucous membrane is termed the 'decidua.' At a later period, the decidua consists of two distinct layers; the one lining the uterus is termed 'tunica decidua uteri;' and the one immediately enveloping the ovum, 'tunica decidua reflexa.' I ought to have mentioned that, during the passage of the ovum through the Fallopian tube, it receives an additional layer of albuminous matter, secreted from the walls of the tube; this becomes surrounded by a fibrous membrane. This special envelope, termed the 'chorion,' is of very great importance, being the medium of nutrition to the embryo in its early stages. From the entire surface of the chorion villous processes project. These processes serve the purpose of absorbent radicles, drawing in the fluid afforded by the parent, and the contained embryo appropriates the fluids thus imbibed for its own nourishment. The first organ of the foetus that is formed is the heart, which very soon presents a pulsating point; next, the brain and liver are formed; the foetus then sends forth vessels to the uterus, and by those vessels an immediate connexion is formed between the foetus and mother.

As the term of pregnancy advances, the membranes already referred to become altered in character; they are the medium of communication between the mother and foetus, and, constituting this connexion, they are termed the placenta. The manner in which the placenta and uterus are connected is very different in the several species of animals. In the mare, the placenta is attached to the whole internal surface of the uterus; in the cow, the internal surface of the uterus presents a great many prominent points or eminences: corresponding projections appear on the foetal portion of the placenta, each of which is furnished with a papillous surface, the projecting part of the one being inserted into corresponding depressions in the other. The connecting parts, as above described, are the true placenta, and are termed 'cotyledons.' They are very numerous—above fifty in common; they vary in size from one to four inches in diameter, and are intimately connected with the foetus by their respective vessels.

It has thus been shewn that the placenta owns a *maternal* and a *foetal* portion. In the maternal portion the arteries are furnished by the uterus;—they divide into numerous ramifications—anastomose freely with each other—and pass into the placenta in a screw-like form; hence physiologists of the present day name them 'curling arteries.' The blood is returned to the uterus from the placenta by short straight trunks; they pass obliquely from the placenta, something analogous to the manner in which the ureters

enter the urinary bladder. It would be inconsistent with the object of this paper to describe the foetal circulation. After the third month of utero-gestation, the umbilical cord forms the only connexion between the foetus and placenta. This cord consists of the umbilical vein and two umbilical arteries. The umbilical vein conveys arterial blood from the mother to the foetus, and the two umbilical arteries return the venous blood from the foetus to the placenta. Commencing where the umbilical vessels emerge from the body of the foetus, I shall describe the nature of the placental circulation in the cow. It has been already stated that two arteries and one vein constitute the cord; the cord is often of considerable length: at the place of its union with the amnion the vessels divide and subdivide into a certain number of branches, corresponding with the number of cotyledons, each receiving two vessels, an artery, and vein. When these enter the foetal part of the placenta, they form extremely minute vessels. The ramifications of the umbilical vein form fasciculi, or tufts, which are very minute loops that dip down, as it were, into the maternal blood, and, being furnished with absorbent powers, they abstract from the contents of the curling arteries the materials destined to the nutrition of the foetus. The umbilical arteries are divided and ramified throughout the placenta in a manner analogous to that now described; their tufts dip into the uterine vessels, where they perform the function of exhalents, or excretory ducts. Moreover, the capillary vessels of the umbilical veins and arteries anastomose freely together—hence the placental circulation, &c. The foetus commands a circulation, in one view, independent of the mother, its pulsations being double in number to that of the parent. The arterial blood is conveyed from the placenta along the umbilical vein, after having circulated through the body of the foetus, during which course it gives off all the elements it contains suitable for nutrition, and receives into its volume the effete matter discharged by the foetal system. It returns exhausted and impure, along the umbilical arteries, to the placenta, where a great part of it is absorbed by the uterine veins, and re-enters the circulation of the mother. A portion of it passes through the placental capillaries, in which it undergoes the renovating influence of the maternal blood, from which it is returned to the foetus in a state of purity. It is a truth that the heart of adult animals performs the double operation of a forcing and suction pump: the left side forcing the blood through every part of the body; the right side by its powerful suction drawing the blood from every vein in the body, and promoting absorption, not only in the veins themselves but in every orifice connected with them. It does not appear that any lymphatics have ever been traced to the placenta; neither, so far

as I can learn, have any nerves been discovered as entering into its composition. Hence all the communication that exists between the mother and foetus must be carried on by means of the blood circulation, the placenta forming the point of attachment and consequent communication, &c. I am well aware that many physiologists maintain that, in the highest species of animals, the blood cannot be returned from the foetus to the mother during utero-gestation. Whether this be the fact or not, I have not the means of proof; but that the blood can be, and is, returned from the foetus to the mother in the bovine race, I have no doubt. Had there existed in my mind any doubts on the subject, these doubts have been set at rest, completely and for ever, by a case which lately occurred in my practice :—

An Aberdeenshire cow, in calf, and past the ordinary period of utero-gestation, from some unknown cause had a slight rupture in the left lung. A constant hemorrhage from the fissure proved fatal in three days. I carefully removed the uterus, with its contents, entire. On cutting it open, the liquor amnii presented the usual healthy appearance. All the vessels of chorion, amnion, &c., were white, flaccid, and empty. There were not three ounces of blood in the animal, taken with all its membranes and placenta. Here is undeniable evidence that, in the cow, the organization of the placenta admits the return of the venous blood from the foetus to the mother; so that, however intricate it may be, the existence of a free communication between them is no matter of doubt. If a cow, say of the pure Aberdeenshire breed, is in calf to a bull of the Short-horn breed (known as the Teeswater breed), in proportion as this calf (foetus) partakes of the nature and physical character of the bull, just in proportion will the blood of the cow become contaminated, and herself a cross, for ever incapable of producing a *pure* calf of any breed.

It is maintained, therefore, that the great variety of nondescript animals to be met with are the results of the crossing system; the prevailing evil of which is the admission of bulls of various breeds to the same cow, whereby the blood is completely vitiated. Having thus stated the *cause*, and proved it to be neither a *vague hypothesis* nor a *dry speculation*, but a *plain matter of fact*, I shall now advert to some of the effects, as proofs of the operation of the cause just stated and the proposition laid down.

SECT. II.—*Cases illustrative of the Principles advocated.*

In the records of the Transactions of the Royal Society of London for the year 1821, are related the following circumstances:—A thorough-bred mare, the property of Sir Gore Ouseley,

was covered by a zebra, and the produce, as a matter of course, was a *striped* animal. The mare was covered the next year by a thorough-bred horse, in a distant part of the country, and the produce was also a striped animal: the next year, the same mare was covered by another horse, and the produce was still a striped animal. The history of these facts, the paintings of the animals, and the veritable skins themselves, can still be seen at the Royal College of Surgeons, Lincoln's Inn Fields.—William Goodwin, V.S. to the Queen, relates the following:—I must mention a fact that came to my notice in the Royal Stud at Hampton Court. In several foals got by the horse Actæon, we observed the marks to be those of the horse Colonel, which horse had a white hind fetlock, and a white slip in the face: Actæon had no white about him. The dams of these foals had bred foals to the Colonel the previous year. These marks were so distinct that there could be no mistake about them, and all the facts and circumstances were notorious.—This curious result was once nearly leading to some inexcusable remarks being made at Newmarket, about a colt the property of the Earl of Suffield, which was got by Laurel, out of Datura's dam, and which so resembled Camel, that it was whispered, nay even asserted, that he must have been got by Camel. On a reference to the Stud-book, we find that the mare was covered *the previous year* by Camel. The colt was in Richard Boyce's stable, and the facts must be in the recollection of many.—Mr. Blaine, a gentleman well known in the professional world, states the following facts:—Lord Morton produced a breed between a male quagga and a chestnut mare, which mare was afterwards bred from by a black Arabian horse: the progeny, however, exhibited in colour and mane a striking resemblance to the male quagga.

A farmer in ——— had a pure Aberdeenshire heifer, which was served with a pure Teeswater bull, to whom she had a first cross calf. The following season the same cow was served with a pure Aberdeenshire bull. This bull was on the farm; the cow could not have met any other bull. The produce was a *cross calf*, which at two years old had very long horns: the parents were both hummel.

A gentleman in this district had a pure Aberdeenshire cow, which, in 1845, was served with a cross bull (that is, an animal produced between a first-cross cow and a pure Teeswater bull). To this bull she had a cross calf. This cow being considered a very fine specimen of the pure Aberdeenshire breed, the owner was anxious to have a calf of her own breed. For this purpose she was next season served by a pure Aberdeenshire bull: she

was carefully kept from any other bull. The produce was quite a cross calf in shape and colour.

David Giles, Esq., had a sow of the black and white breed, which sow became pregnant by a boar of the wild breed, of a deep chestnut colour. The pigs produced by this intercourse were duly mixed, the colour of the boar being in some very predominant. This sow was afterwards bred from by two of Mr. Weston's boars, and in both instances chestnut marks were prevalent on the young pigs, which, in other instances, had never presented any appearance of the kind.

'I had a pug bitch (says Mr. Blaine) whose constant companion was a small, and almost white, spaniel dog, of which she was very fond. It became necessary to separate her, on account of her heat, from this dog. She was warded by a dog of her own kind: impregnation followed; and at the usual period she brought forth five puppies, one of which was *perfectly white*, and rather more slender than the others. The spaniel was soon after given away; but at two subsequent litters (which was all she had afterwards) she again presented me with a white pug each time.' Mr. Blaine mentions in a foot note—'It is a curious fact that each succeeding white puppy was less slender in form than the preceding one, though all were equally white.' The above note proves that the first white pup had been a good deal more slender than the others, when there was room for the subsequent litters to become less and less slender. So much had they excited attention, that Lord Kelly offered fifteen guineas for one of them only three months old.

Dr. Hugh Smith had a favourite female setter that often followed his carriage. She had cohabited with a mongrel cur whom she met on the road: the good doctor shot the poor cur on the spot. The bitch was warded by a well-bred setter; but when she whelped the good man was mortified by the sight of a litter which bore evident marks of the cur, especially in colour. They were all destroyed. The same occurred in all her future litters: invariably the breed was tainted by the mongrel cur.

Many more instances might be cited, did time permit. Among cattle and horses they are of everyday occurrence. How often do we find that people give large, even enormous, prices for huge Aberdeenshire heifers and bulls, &c. (so called), but which in truth are crosses? but the precise nature of that cross no one can determine. We have known judges at cattle-shows a good deal annoyed with those equivocal cattle; and we have felt for the owners when their veracity as regarded the parentage has been questioned, the true cause of the crossing never having occurred to them. Indeed, so much of this unsystematic crossing has been

in practice, that we suspect it will prove a somewhat difficult matter to procure pure Aberdeenshire animals; the more so, as there often appear strange freaks of nature, at times producing types of animals that had, at some former period, appeared in the race, but had apparently been extinct even for some generations. This subject requires the special attention of the farmer, and shews the *value* of good pedigree.

VETERINARY JURISPRUDENCE.

CASE OF WARRANTY.

Sympson *v.* Dixon.

Mr. Crowder and *Mr. Phinn* appeared for the plaintiff; *Mr. Cockburn* and *Mr. Smith* for the defendant.

This was an action to recover damages for a breach of warranty alleged to have been given with a horse sold to the plaintiff. The horse was sold for £28, for farm purposes, the plaintiff, who is a solicitor, of the firm of A'Beckett and Co., London, having an estate at Banwell, which he farmed. The defendant kept a repository in London, and was a horse-dealer. On the 20th December the parties came together, and the plaintiff, seeing the horse, expressed a desire to have it: it was then in the defendant's repository, and on the day following the defendant's foreman, a person named Hill, bargained with him for the horse, it being agreed that £28 should be paid for it, and a warranty was given for it at the time. The plaintiff had on a former occasion bought a horse from the defendant, which also turned out to be bad, and this second horse was sold for £28, alleged to be a small price, in order to make up to some extent for the loss on the former bargain. The horse was soon after sent to Banwell, when it was almost immediately discovered that it was faulty. It got worse rapidly, and died in January last.

The material portions of the correspondence having been put in and read, with a cheque for £45, to pay for the horse and a cow, the following evidence was given.

Thomas Jenkins, clerk to Messrs. A'Beckett and Co., said—The plaintiff has a farm at Banwell; on the 21st December I was called to witness the bargain made between Mr. Sympson and Hill; I

have seen Hill at the repository, shewing the horses. Mr. Sympson said he had called me up to witness the warranty of a mare, the price of which was £28; Hill answered, "Yes, I warrant the mare to be in good condition, and perfectly sound." Hill was then directed to send the mare to Yatton, which was the nearest station to Banwell; the defendant was once employed by Messrs. A'Beckett and Co., to sell some horses which had been taken in the case of a person's bankruptcy; a Mr. Gore, clerk to the defendant, took an active part in preparing for the sale.

Charles Nuttall Tomlins.—I am clerk at the Yatton station, and received the mare on the 22d December, at a quarter past 7 o'clock; she was given in charge of a porter, who rode her to Banwell, which is about eight miles from Yatton; she seemed tired, and went very slowly; I noticed her, and one of the men said she seemed to be foul: the charge for her by train was £1..17s..4d.

Thomas Simmons.—I took the horse to Banwell; I started a few minutes before four, and led her; I could hardly get her along; she was all in a muck of sweat, and quite faint. I was nearly four hours getting her to the plaintiff's house, and I then gave her to his servant; I received the fare, and 2s..6d for myself.

Cross-examined.—She did not sweat from the beginning of the journey, but soon after we started. I stopped to give her drink, but not to drink myself.

—*Hancock*, plaintiff's bailiff, deposed that the mare was in a very weak state and was perspiring very much when brought; he charged the porter with having ridden her fast, but he denied that he had done so; she refused to eat for some time, and was not worked until the Tuesday after, when she was put in a cart; she went about a quarter of a mile, and appeared to be very much tired; she breathed very quickly, and seemed to be much distressed. Mr. Sympson came down on the Saturday evening; she soon appeared not to be able to work, and Mr. Barrow, a veterinary surgeon, was sent for: he attended her fifteen days, and she got better; but she again got worse, and Barrow then came and again took charge of her; but she died a few days after: she was never worked except under witness's care, and was never over-worked: another person, named Fry, had had something to do with her. Witness had seen the horse's entrails, and believed that she had been affected with disease for months before she died; she had a slight cough, but not violent.

Cross-examined.—He discovered the cough after Barrow was called in the first time: Mr. Sympson was gone before Mr. Barrow was sent for.

Samuel Fry remembered the mare being brought down; she was in a very weak state; he saw the liver after the body was

opened, and it was so much decayed that it would not bear taking out: it must have been caused by long-standing disease.

Cross-examined.—I am a kennel huntsman, and cut up horses for the dogs; in doing so I have had opportunities of seeing diseased parts; I think, therefore, I am as good a judge as any veterinary surgeon can be of the cause of this horse's death.

Thomas Barrow.—I am a veterinary surgeon at Banwell, and have been in business since 1844. I was called to see this mare on the 4th of January; I considered that she was labouring under bronchitis; she was very dull, had lost her appetite, and was very languid; her eye looked yellow, which indicated bile; I therefore thought the liver was affected, and I gave her the medicines usually administered in such cases: her breathing was rather stertorous, that is, frequent and loud; the pulse beat very softly; the symptoms were not prominent enough to enable me to distinguish any other disease; she improved under my care, and on the 15th of January I left her. I was again called on the 27th, and found her dangerously ill; the attendants despaired of her recovery; the symptoms were different then—the pulse being higher, the breathing more hurried, and the eyes worse; she then appeared to be labouring under inflammation of the lungs, besides the liver disease; she was so weak that I was afraid to bleed, as I should otherwise have done. I gave her sedative medicines, and employed counter-irritants; I sat up with her the whole night and great part of the next day: she died on the 30th, and I opened her; suppuration had commenced in the cavity of the chest; there were also adhesions of the pleura, indicating chronic disease. In the liver I found chronic disease to an immense extent; the liver was so bad that no one could recognise it as a liver; it was a complete pulpy mass; there was not a portion of it sound as large as a nut; it could not have been so affected in a shorter period than six months; horses may work several months with a complaint of this kind; the horse could not have been sound either in liver or lungs on the 21st of December. My bill was £2.9s.6d.

Cross-examined.—I bled the mare, but only took six ounces instead of sixteen. I administered setons, balls, and blisters in one day: it was pretty active treatment, but not more so than the case called for; an acute inflammation is more painful than this horse had at first, and is shewn by the animal's pawing and rolling about.

Mr. Cockburn, for the defence, said the main question would be, was the mare sound at the time she was sold? She died on the 30th of January; she was sold on the 21st of December. With a view to shew that she was not sound when sold, it had been attempted to prove that the lassitude she exhibited on reaching Banwell was connected with the diseases which caused her death.

The manner in which she was sent down was enough to do very great injury, she having been shut up in a cold box on a raw winter's day. Besides, horses were often so nervous on being transported by railway, in consequence of their being shut up in a dark place, and shaken about so much, as to become exceedingly ill. He did not wonder at the horse being dull when she was let out, for she had been shut up eight or nine hours in a dark place, with nothing to eat. It was a point worthy of remembrance that perspiration was not one of the symptoms produced by the disease to which the animal's death was attributed. It was strange that Mr. Sympson said nothing of the mare to Mr. Dixon's foreman, whom he met three days before she died, nor to any one else connected with Mr. Dixon. The learned counsel then commented on the evidence. One of the witnesses had stated that there was no liver at all left, while Mr. Barrow said it was still there, although in a pulpy state. This was therefore a discrepancy, and rather an important one, because it led to a suspicion that there were other discrepancies which would render the evidence of little value. He should call a witness to prove that the diseases were acute and not chronic, and that it was very likely those diseases were caused by the treatment it had received. Mr. Dixon sold horses under condition, that, if any of the animals were discovered to be unsound, they must be returned within a certain time; but that condition had not been complied with in this case, the time allowed being until six o'clock the evening after the sale; but the plaintiff kept the horse he purchased for six weeks after, and indeed he had never returned her. The learned counsel called the following witnesses.

James Gower deposed that he was confidential clerk to the defendant fourteen years up to April last: he was in the yard on the 20th of December; he had brought a brown mare there before: he said to me, "Gower, I've been looking at this mare; do you think it will suit me?" Witness replied that she looked very likely, and asked what price Dixon had fixed upon her: he answered £29; and witness remarked that it was a small price, she having cost Mr. Dixon £27. The day before Mr. Sympson saw her she worked in a heavy cart as well as any horse could; witness had often seen her work, and always equally well: the conditions of sale were put up in all the conspicuous places in the yard.

Cross-examined.—I don't know that any horses sold by Mr. Dixon were ever sent away in an improper manner by railway: if the owner desired it, a cloth was put on the horse; if not, no cloth was put, except in the case of a very valuable animal. I called on Mr. Sympson after I had left Mr. Dixon, and commenced business for myself, and endeavoured to get the matter settled; I went

without Mr. Dixon's knowledge, and my object was only to serve my late employer, whom I had served so many years. Mr. Sympson said he would not be satisfied with any thing but the return of all the money; his partner, Mr. A'Beckett, told him he had a clear case, and that he would not only have all the money back, but compel the defendant to pay the legal expenses that had been incurred.

Re-examined.—Mr. Dixon had received a writ, which was the reason I called on the plaintiff to endeavour to get the matter settled.

James Chappel deposed that the mare was worked several times just before she was sold, and that she never shewed any signs of illness.

Charles Spooner.—I am professor of anatomy in the Veterinary College, London; I have heard the evidence in this case, and I believe all the symptoms referrible to acute inflammation. A disease may be acute in one hour, and in consequence of a change in the function of the vessels may assume a chronic form. An adhesion of the pleura does not necessarily shew a disease to have been of forty days' standing; I have known many cases of adhesion shew themselves within a few days. I have known an animal in perfect health in one day attacked with acute inflammation of the lungs, and die in less than a week, exhibiting symptoms similar to those described by Mr. Barrow; this refers to the lumps. If there had been an adhesion of the pleura, the animal could not have worked as described by the last witnesses; long-standing adhesions in the pleura are rarely met with; the animal could not exist under such a disease, because his respiration and circulation of the blood would speedily render it acute, and death ensues in consequence. I never saw a case of chronic disease except in a horse that did little or no work, and I have opened some thousands. I don't think this mare could have worked as described if she had an adhesion to the lungs—it is impossible; my opinion is that the disease in the liver was also referrible to acute inflammation. I have frequently known the liver reduced to a pulpy state in the course of a week, and generally speaking, when the liver is in that state, it is in connexion with acute inflammation of the lungs. There is a disease which frequently affects the liver of horses where the liver undergoes a somewhat similar change, only the liver becomes much larger in pulps, and it is unassociated with lung disease, and rarely exists except in old subjects. In some instances horses shew disease after travelling; it arises from nervous excitement, or from variations of temperature. I have known many come out of a railway box covered with perspiration, caused by nervous excitement; I have known horses that would not eat for days afterwards.

Cross-examined.—I have seen horses exhibit the evil consequences of their being sent by train in numerous instances, and in a variety of horses: many cart horses are more alarmed even than others, but I don't think the breed has any thing to do with it. Whether a horse should be clothed or not in a railway box would depend upon the manner in which he had been generally treated: I don't believe that there was any long standing disease at all in the horse sold to the plaintiff.

Mr. Crowder having replied, and the learned Judge summed up, the jury found a verdict for the plaintiff—Damages £33.

Somerset County Gazette.

CHOLERA IN THE HORSE.

To the Editor of "The Veterinarian."

Sir,—As every form of disease that may be noted is of value in a scientific point of view, I send you a few observations on "cholera in the horse," as I have had two cases bearing so close an approximation to this disease in man, that I consider I am fully justified in employing such a term. The symptoms are, rapid and spontaneous diarrhœa of a most putrescent character—great prostration of strength and of the vital powers—pulse rapid, feeble, and indistinct—mucous membranes where visible pallid, cold, and with a strong disposition to the blue tinge. Apparently, there is no previous condition of the system present to indicate such a malady being about to manifest itself. In each instance the attack has come on while out at work—has run its course in a few hours—and the prostration has been most marked. Neither case terminated fatally, though the first prognosis favoured such a result. In each case I have every reason to believe that there had been previously a slight manifestation of impaired appetite and increased thirst, but not to a degree to attract notice from those about the animal.

The excessive flow of mucus, and its peculiar fetid putrescence, characterise it from ordinary diarrhœa. If the malady is not early and properly treated, the result must be fatal, from the prostration of the vital powers.

The treatment I have adopted has been the exhibition of sedatives: in the first instance I give

Spt. etheris sulph.....	3ij	
Tinct. opii.....	3ij	
Aquæ.....	℥bj	M.

To be given as a draught, and to be repeated, if requisite: after a few hours I give the draught as follows:—

Spt. ether. sulph.	℥j
Tinct. opii.....	℥j
Sol. aloës alk.	℥ij vel ℥iij
Aquæ.....	℔j M.

To be followed by tonics for a few days. The aloes are given to remove the putrescent matter from the primæ viæ, and tend greatly towards the recovery of the animal.

The alkaline solution of aloes I make as follows:—

Aloës Barb.	℥ij
Sodæ com.....	℥ij
Aquæ, by weight	xxxij

To be gently simmered over the fire, to be dissolved. Thus, each ounce, by measure, of the solution contains ℥j of aloes. It will keep any length of time, and is one of the best solutions of aloes I ever knew: if the aloes are good, there is no sediment.

Time will not allow me to enter more at large into this subject at present.

I am, Mr. Editor, yours obediently,
ARTHUR CHERRY.

August 20th, 1849.

PROCEEDINGS OF THE COUNCIL OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.

Sitting of July 27, 1849.

Present,—The PRESIDENT, the SECRETARY, the TREASURER, Messrs. HENDERSON, JAMES TURNER, ARTHUR CHERRY, BRABY, ERNES, WILKINSON, and KING.

THE minutes being read and confirmed,

Mr. Arthur Cherry drew attention to the circumstance of the last Quarterly Meeting having been duly convened, and there being only six members present. No meeting was held, as the Charter directed that there must be seven members present to form a meeting of the Council: this being the first time that such a thing had occurred since the granting of the Charter, he thought that a minute of the circumstance should be made.

The Secretary was therefore directed to enter such minute.

The Secretary laid before the Council a report from the Committee appointed to re-consider the By-Laws, reporting the progress that the Committee had made.

The Secretary, on behalf of Mr. T. W. Mayer, gave notice of the suspension of a proposed code of by-laws prepared by that gentleman.

Mr. Arthur Cherry said that he could have no grounds of complaint against such a course of suspension, as every one had a right to suspend any propositions they thought proper; but he considered that Mr. Mayer was acting unadvisedly in the course he had adopted.

The Treasurer then laid before the Council his report for the previous quarter, by which it appeared that there was now in the hands of the banker the sum of £494..9s.; that the debt now owing, and interest thereon to this date, amounted to £207..10..2½d. leaving a balance of £286..18s.9½d. to the credit of the Royal College of Veterinary Surgeons. It having been ordered at the last sitting of the Council that the debt be paid off, cheques were now drawn for that purpose. The result of the Treasurer's report was received with much satisfaction.

The Secretary wished to ascertain the feelings of the Council respecting the seeking of suitable apartments or a place of meeting for the College. A conversation ensued, and it was decided that the Secretary should seek for some place in his estimation suitable, and report the same to the Council as early as convenient.

The Secretary stated, that he had received a communication from Mr. T. W. Mayer, requesting that the sum (£37 odd) due to him as one of the original advancers of the loan should be placed to the credit of the College, as a nucleus for the formation of a fund for the purchase of, or for building, a suitable place for the meetings of the College.

After some discussion, it was accepted; and it was moved by *the Secretary*, and seconded by *Mr. Field*, that a vote of thanks be tendered to Mr. Mayer for his liberal donation. Carried.

Adjourned.

ROYAL AGRICULTURAL SOCIETY.

At the Monthly Council held at the Society's House, Hanover-square, 7th August, 1849, Mr. RAYMOND BARBER, Chairman of the Veterinary Committee, presented the Report of the Committee, and the same was unanimously adopted by the Council.

REPORT OF THE VETERINARY COMMITTEE.

WITH a view to the collecting and perpetuating a body of authentic information in regard to the diseases of cattle, sheep, and

pigs, and arresting their progress, the Society appoints a professional inspector for these purposes. Any member of the Society who may desire a competent professional opinion and advice in cases of extensive or destructive disease among his stock, and will address himself by letter to the Secretary, will, by return of post, receive a printed list of queries, which he is requested to fill up and return immediately. On the receipt of such returned list, the Secretary will convene the Veterinary Committee forthwith (two members of which, with the assistance of the Secretary, shall be competent to act), and such Committee will decide on the necessity of dispatching the Society's inspector to the spot where disease prevails. The remuneration of such inspector shall be a professional fee of £2..2s. per diem, and £1..1s. per diem for personal expenses, and he shall also charge the cost of travelling to and from the localities where his services may have been required. The fees will be paid by the Society, but the travelling expenses will be a charge against the applicant for professional aid. This charge may, however, be commuted or remitted altogether, at the discretion of the Council, on such step being recommended by the Veterinary Committee.

The inspector, on his return from visiting the diseased stock, shall report to the Committee in writing the result of his observations and proceedings, which report will be laid before the Council.

When contingencies arise that may prevent a personal discharge of the duties confided to the inspector, he may, subject to the approval of the Committee, name some competent professional person to act in his stead, who shall receive the same rates of remuneration.

(Signed) THOMAS RAYMOND BARKER, Chairman.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.—QUERIES.

This list is returned by

Mr. (Christian and surname).

of (Parish).

near (Post town).

Most convenient Railway station from London

Date

1. What length of time have you occupied your farm?
2. What are the relative numbers of cattle, sheep, and pigs, kept by you for breeding, milking, grazing, or other purposes?
3. What is the general character of your arable and pasture grounds?
4. What has been the usual state of the health of the animals kept on the farm?

5. When did the disease first appear ?
 6. What number of your cattle, sheep, or pigs, are now affected ?
 7. How many have died or been destroyed ?
 8. What time has usually elapsed between the first indications of illness and the death of the animal ?
 9. What was the state of the weather previous to and at the time the disease was first observed ?
 10. Did the malady first shew itself among the breeding or fattening cattle, sheep, or pigs ?
 11. What is their age and condition as to fatness ?
 12. Can the outbreak be assigned to contagion or infection ? If not, what do you believe to be its probable cause ?
 13. Is a similar disease prevalent in the neighbourhood ?
 14. What are the symptoms shewn by the animals, and what is your opinion, so far as you are able to form one, of the nature of the malady ?
 15. Has amelioration been attempted by change of situation or management ? alteration in the quantity or quality of the food ? by medical treatment, or any other means ?
 16. What effects have followed any efforts that may have been made to stay the progress of the malady ?
 17. Are you willing to pay the travelling expenses of the inspector, should the committee decide on sending him down ?
- Have the kindness to add any other information that you think desirable, and return this list without delay to the Secretary, JAMES HUDSON, Esq., 12, Hanover-square, London.

THE VETERINARIAN, SEPTEMBER 1, 1849.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

MR. BOUGHTON'S case of "Double Metastasis" is rare and interesting, from its exhibiting a step beyond what translation of disease ordinarily takes. We can find on record metastasis of inflammatory action from lungs to feet, and from bowels to feet; but we can hardly find the shifting occurring a second time, as it did in the instance before us. It is usual to ascribe laminitis, the sequel or translation of inflammation within the thorax, to the circumstance of the horse standing so long, whereby his laminæ, from

being kept continually on the stretch, are either worried into a state of inflammation, or rendered peculiarly susceptible of such action. There is evidently, however, something more than this required to account for translation from the bowels to the feet. As all veterinarians know, every now and then it will happen that laminitis is found supervening on over-purgation from physic, a case where the standing posture has certainly had nothing whatever to do with the causation; on the contrary, some check to the purgation, either from cold or some other cause, is almost always evident as the cause of translation. But a few months ago a case of this description occurred in our own practice. A mare of gross habit, from having swelled legs, took a strong dose of physic. Purgation did not come on at the ordinary time; but the protracted inaction of the medicine was followed by excessive purgation, during the continuance of which the weather suddenly changed from hot to cold, the effect of which was a check to the action of the cathartic, the sequel, a severe attack of laminitis. In another case laminitis seized a horse while his physic was operating but mildly, and nothing had occurred out of the usual course of things, the weather being at the time sultry, and influenza raging the while.

These may be regarded as examples of laminitis resulting from metastasis unconnected with any stress or unusual standing upon the feet: at the same time it ought not to be forgotten, that horses that are kept standing on board of ship during long voyages without any belly-cloths to rest their bodies upon, are known very frequently to become the subjects of laminitis, of which some very striking instances used to be mentioned by Coleman in his lectures.

It will be seen from a paragraph extracted this month into our pages, that the Council of the Royal Agricultural Society have come to the resolution of appointing "a professional inspector," with a view, to use their own words, "to the collecting and perpetuating a body of authentic information in regard to the diseases of cattle, sheep, and pigs, and arresting their progress." That cattle pathology, although a branch of the veterinary art, stands greatly in arrear of horse pathology, there is no denying, and it

is any thing but reputable to our profession that it does so ; at the same time, we have no need to feel surprised at it. Horses pay a great deal better as patients than oxen and sheep ; their cost makes them better worth doctoring, and their owners, in general, are men who do not grumble at remunerating veterinary surgeons. It is not so generally with cattle. Farmers are not fond of "doctors' bills" in any shape ; and in none do they dislike, or indeed, refuse to have them, more than in accounts for medicine for their cows or sheep.

Little demand for such knowledge has naturally been productive of neglected cultivation of it. The late Professor of the Royal Veterinary College knew nothing about—did not profess to teach any thing about—cattle pathology ; the consequence was, while every pains were taken, and every aid called in, that could cast light on horse medicine, cattle medicine either remained in the hands of the cowleech, or, if taken up by the educated veterinarian, could be practised by him but through analogical inference from his horse practice. There were very few exceptions to this ; but there existed some. In different parts of the country there lived veterinary practitioners who by dint of their own exertions, aided perhaps by some knowledge they had derived from their forefathers, had become clever cow and sheep doctors, as well as horse doctors. Still, these were rare exceptions.

This was the abandoned condition of cattle pathology when agricultural societies made their appearance. They succeeded in raising in public estimation the value of agriculture and every thing connected with it to a higher standard than ever it had attained before ; and as they caused advances to be made in the culture of the land, they found there was much to be done to improve the breed and management of cattle and sheep. And not long had this subject engaged their attention before they discovered that veterinary medicine was by no means that help to them in the cow-house and sheep-pen which it was acknowledged to be in the stable. They lost no time in setting about to remedy this defalcation. They voted sums of money for prizes and lectureships ; they invited veterinarians to join their body ; and in conjunction with those veterinarians, they have now appointed, or are about to do so, an "inspector," who is to hold himself ready to be de-

spatched by the secretary to any locality or farm in the country wherein disease among cattle or sheep shall be shewn to be raging with any inordinate prevalence or fatality.

Whatever success may attend this scheme we apprehend will entirely depend upon the person appointed inspector. That a competent and clever medical man in the situation may, acting as consulting physician, in times of emergency turn out to be of essential service, there cannot be two opinions; but then he ought to be a man who has had ample field and opportunity of seeing and studying cattle disease, or he may prove no better than the veterinary surgeon or cowleech on the spot. Further than this, we must confess we do not anticipate much result from the Society's procedure. If the object be to attain a knowledge of cattle pathology better than the present low standard of it, in our opinion such an insulated act as the appointment of an inspector can achieve no such thing. Nothing can do this save an improved foundation to work upon for such knowledge, and abundant field for observation and practice, with ample time for the carrying of them out. Pathology is a branch of medicine of notoriously tardy growth, and can only grow at all in perfection when the trunk whence it proceeds yields it plenty of sap.

M I S C E L L A N E A.

A FARRIER'S SIGN.

Sir,—THE following little *morceau* I copied from a farrier's shop at Carleton Church, on the road to York. It was surmounted by a large horseshoe curiously constructed in brick-work.

H. C. COOK.

(*To the Editor of the Mirror.*)

Gentlemen, as you pass bye,
 Upon this shoe pray cast your eye.
 If it be too straight, I'll make it wider,
 I'll ease the horse, and please the rider;
 Or lame from shoeing, as they often are,
 You may have them eas'd with the greatest care.

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CASE OF INFLUENZA TERMINATING IN DEATH
FROM APOPLEXY.

By EDW. MAYHEW, *M. R. C. V. S.*,
Spring-street, Westbourne-terrace.

WHEN I wrote to you last month, I could boast that no horse had died under my treatment for influenza; but I am sorry to say that charm is broken, and I think it due to truth that I should notify the fact. The circumstances, however, are somewhat peculiar, and therefore I will intrude upon your notice a narrative of the case.

A worthy corn-chandler in this neighbourhood possessed a very fine Flanders colt. It stood seventeen hands high, was of a bright bay colour, was active and docile, and in such condition that it could be shewn as a living exemplification of the kind of provender its master sold. In July last the animal had an attack of influenza, which was accompanied with numerous abscesses upon the head. One formed upon the nostril, and five had to be lanced under the jaw, but all upon the left side. As the breathing was impeded and deglutition imperfectly performed, drinks were withheld, and the case was treated with calomel, opium, and embrocations, &c. The disease was lingering, but on the 31st of July I paid my last visit, and the animal subsequently went to work and did well.

On the 28th of August I was again called to see the horse, which had been sickly for a day or two. I found it dull, and, on passing my hand over the coat, a sensation similar to that which would have been experienced if grit or sand had been mingled with the hair was communicated. The membranes were injected, the pulse quickened but feeble, the mouth very hot, the hind legs were carried rather wide apart, the breathing tranquil, and one of the extremities a little cold. Subsequently, a slight yellowish discharge appeared from the off nostril, but it was never copious or fairly purulent. On the 1st of September purging was observed, which being spontaneous, was not checked until

the 3d, when, on account of the weakness, a few astringent powders were administered, and their effect was almost immediate. The case appeared to do well with sulphuric ether, calomel, and opium, in the form and doses I have before described, but, as the purging ceased, acute lameness appeared in the near hind leg. A bottle of mild embrocation to the part seemed to give relief, but the weakness continued and even increased, although the more active symptoms subsided. The mouth became moist and cool, the extremities of equal temperature, and the coat smooth, while the membranes assumed their natural colour. The breathing, however, was accelerated; but though the horse blew rather more than I desired, nevertheless, as I before have stated, I regarded that symptom only as an indication of debility, which would, with returning strength, disappear.

The case had at first somewhat puzzled me. I could see nothing very marked, save fever, for even the slight eruption on the skin seemed to be the natural effect of such a cause; but as the symptoms began to shift, and the debility became more and more confirmed, I recognised the complaint which so often defies our discernment, owing to the disguises it assumes. My treatment, however, had been such as I employ for influenza, therefore, when I recognised the true character of the disorder, there was nothing to regret. It had, however, been by me designated fever, and to the proprietor I never gave the disease any other name; for to him it was a matter of no consequence what the affection was called, provided it did not injure his property.

On Tuesday, September the 4th, at twelve o'clock, I saw the horse. It was lying down, stretched out in a loose box. It raised its head at my entrance, but did not rise; I made the usual examination, therefore, while it continued down. The eye was bright, the skin and extremities warm, the mouth natural; the conjunctiva clear, but the breathing quick, and the nasal membranes a little heavy in their hue. The pulse at the jaw was very feeble, and the heart was by no means strong. Weakness appeared the prominent symptom. All fever had departed. The food had been free, but the animal took little more than fluids. It had, however, gruel for drink, and occasionally it picked a bit of hay. I ordered any food to be given the horse would eat, and left the place, telling the proprietor his animal was very weak, but in no danger.

At five o'clock the man came to tell me the horse was dead, and had been so two hours. I could not believe the report. I thought no disaster of the kind could have occurred, for I had seen the horse so lately, and had then discovered no sign of death, which in cases of this kind, when the acute stage has passed, is never sudden. Death in influenza or fever is gradual, and

generally we perceive it four or five days before it puts a termination to the disease: I was, therefore, fairly taken by surprise. I put my knives into my pocket, to make a post-mortem, not knowing what I should find.

As I went to the place where the dead horse lay, I thought over the symptoms, and endeavoured to recollect if there had been any indication to which I had not paid sufficient attention at the time. I could remember nothing, neither could I recall any circumstance that might account for the sudden ending of the case.

Completely beaten, I began the examination, and, as there were plenty of witnesses, all I state can be amply corroborated. The larger intestines were full of fluid, but with it was mixed a fair proportion of solid food, the dung in the rectum being of a pul-taceous consistence. The peritoneum was healthy, and the intestines not thickened in any part. The lining membrane of the cœcum and a portion of the colon was discoloured, and here and there were to be seen small patches of very slight inflammation; indeed, so small and weak were these marks, that they required searching in order to find them.

The stomach was healthy, and contained a fair proportion of food. The liver was a little pallid, but not enlarged or otherwise affected. The kidneys healthy, but the bladder contracted and devoid of urine. The heart was normal, but within the left ventricle was a firm clot of white fibrin, which extended up the aorta for some distance. The left lung, on which the horse had lain, was congested; the right was natural, and portions of both floated when thrown into water. The pleura was bright and transparent.

Enough was seen to evidence the horse had not been in perfect health, but nothing to explain the cause of death. The contents of the abdomen and chest were in such a condition as confirmed the opinion I had expressed that the disease was subsiding, and the animal getting well; yet there was the fact which ought to be accounted for, and, though our post-mortems are heavy and dirty work, I was obliged to look to the brain. When removing the head, I was struck by the excessively distended condition of the bloodvessels. In the trunk there had seemed to be rather a deficiency of blood, but about the head everybody present observed its abundance. On laying bare the brain, I found its vessels gorged, forming dark lines upon its surface; the membranes likewise were similarly characterised, the sinuses and veins being distended. No fluid, however, was found in the ventricles, and the plexus choroides were particularly small, pallid, and devoid of blood: they were so much altered from their usual appearance, that at first I almost thought they were absent, and only after

some search was enabled to discover the substance by which they were represented. On the cerebellum there was an effusion of fibrin and four clots of congealed blood, each about as large as half a pea. The brain itself was more than usually firm.

Such were the results of the examination; and now let me describe the manner of the death. After I left the horse, it had of its own accord risen, and lain down again, several times, which it was by no means so weak but it could accomplish with ease: it had throughout lain down to rest, and on the day it died was not less able to do so than before. A drink had been given, and the proprietor was watching the animal, when he observed it, while standing at one side of the box, straighten its legs, and, without bending them, fall upon its side: the head was drawn backward, and the life, without a struggle, was gone.

Had a human being, even without displaying any other symptom, thus departed, the medical man probably would readily have named the cause of the sudden decease; but I, as a veterinary surgeon, was not by experience told to expect a case of apoplexy in the horse. There can be no reason why the animal should be exempt, and its master subject to that affection; but hitherto I have not met with a case similar to the one I have narrated. I have known the horse to die from inflammation, congestion, and abscess of the brain; but in every instance the termination has been slow, and the last moments have been marked by struggles more or less violent. The life has always departed with convulsions; but here not an indication of pain was to be observed, for the limbs stiffened previous to the fall, nor were they subsequently flexed. In the words of the owner, "the horse dropt as if it had been shot, and went off like a child."

This history may serve to further shew the tricks which influenza can play us, and the danger which attends the disease from its tendency to involve numerous structures. Originally the bladder or kidneys seemed implicated; yet as the fever was not acute, but the pulse feeble, I disregarded that indication: then the bowels were affected, but, as the pulse retained its character, the treatment was not changed. The hind leg subsequently was attacked, after which the breathing suggested congestion of the lungs; and lastly, the brain being affected by a determination of blood, apoplexy terminated the disease, when the horse, to every appearance, was past all danger.

A month did not elapse between the two attacks, the first being of a nature which we should argue would have tended to purify the system; and as to the perfectness of the recovery, the fact of the animal having done its work with spirit does not allow the point to be disputed. The breed of the horse may offer something like

an explanation. The Flemish horse is notoriously weakly. The state of plethora in which appearance almost necessitates it should be kept does not increase its strength, or give it any power to bear up against disease. Unless great care be exercised in the treatment, the life is almost as greatly perilled by medicine as it could be by neglect; for that reason, no depletion of any sort was practised. The measures employed were designed to support and invigorate the body, calomel in mild doses being alone used to counteract the fever. Nevertheless the weakness was prolonged, and, of course, each day added to its severity. The apoplexy I attribute solely to the debility, which in this case certainly remained present after the fever had subsided for a longer period than it usually does in animals of harder breed and stronger constitutions. Had the horse been of an irritable disposition, or the persons who attended upon it likely to practise severity, it might have been thought that excitement, operating upon an enfeebled system, had produced the result: but the reverse was the case; and I can confidently assert that nothing calculated to alarm or provoke was ever resorted to by myself or others, neither were any symptoms remarked which could have indicated the condition of the brain.

When I saw my patient only a few hours before its death, the pupil of the eye was not dilated, and the intelligence seemed to be in no degree obscured. The cerebellum was the part of the brain on which the effusion was found, but to the last the voluntary motions were preserved. The death, therefore, was immediate, nor can I conceive that any knowledge we possess could have prevented it. On that point, however, on a single case of the sort I may not speak positively; and, therefore, through the medium of your pages I venture to inquire whether any member of my profession can throw light upon the subject; or whether we are to regard death from sanguineous apoplexy, when it does occur in the horse, as one of those possibilities which it is beyond the ability of science to anticipate?

I remain, Sir,

Your obedient servant.

16, Spring-street, Westbourne-terrace,
July 10, 1849.

HOVEN IN CATTLE.

By PETER BOUGHTON, V.S., *Hounslow*.

Sir,—The enclosed has been written for insertion in the "*Mark Lane Express*," in the hope that, on many occasions, it may be the means of saving the lives of animals where medical assistance from

the veterinary surgeon is too far off to hope for relief from more skilful treatment in time.

If you should feel inclined to insert it in your valuable Periodical, and you can spare a space for it, it is very much at your service.

I am, Sir, your's truly,
PETER BOUGHTON.

W. Percivall, Esq.,
Editor of "The Veterinarian."

Hounslow, Sept. 2d, 1849.

Sir,—COWS and oxen are very subject, from being incautiously turned into damp clover or rich pasture, to become hoven or blown, or, as it is often significantly called, "dew blown," a term quaintly expressive of the cause of the disease, and of its preventive remedy.

So sudden are these attacks, and so rapid and fatal are they in their progress, that, unless relief be very quickly obtained, there is no chance of saving the animal. I have very frequently felt much pained to find the animals dead which I have been called suddenly to attend to; and my attention has long been directed to some simple means of relief which might with safety be placed in the hands of the agriculturist: it is, therefore, purely in the hope of being serviceable to those who are so unfortunate as to have their stock so affected that I trouble you with this letter, trusting to your anxiety to benefit the agriculturist by its insertion in your widely-spread Journal.

There are very many means which a veterinary surgeon may employ with advantage in this disease, and these remedies will naturally depend upon the urgency of the case, the duration of the attack, the nature of the food, and various other circumstances. It is not to be expected that a farmer could attempt to use these remedies, and to change them as occasion would require; as a person who has not closely and most carefully studied the peculiar nature of the animal cannot possess the requisite knowledge to enable him to do so, and there is no animal wherein the gradations and phases of health and disease require to be more intimately known than in the ox tribe.

The principal remedies made use of in this complaint are, the introduction of the œsophagus tube (or choke-pipe, as it is commonly termed) into the stomach: this instrument, however highly useful as it is in the hands of the experienced veterinary surgeon, is often very dangerous when used by the inexperienced operator, and especially in this disease, when the great swelling which takes place in the stomach compresses the œsophagus in such a manner that it is often extremely difficult to attempt its introduction, and numbers of fatal accidents result from the attempt to use it in these

cases. Paunching is another remedy frequently used, and occasionally with great success; but it is, after all, a desperate remedy in unprofessional hands, and I have attended many cases wherein the animals have died in consequence of the operation having been performed. When an animal is paunched by the common method of the knife being plunged into the rumen on the left side, at a point about a hand's breadth in front of the hip, and at an equal distance from the loins, immediate relief is usually obtained; but a great quantity of the contents of the stomach often escapes into the abdominal cavity, and remains there as a source of dreadful irritation. If paunching is to be performed, it should be by the trochar and stiletto, which will mainly prevent the results above named; but it is never to be recommended in unprofessional hands, unless as a last resort, as there is considerable care required in the after treatment of the animal. In some desperate cases the rumen has been opened on the left side, its contents removed, and the animal has done well. I need not say that this could only be done by a skilful veterinary surgeon.

Many medicinal means for the treatment of this complaint are employed by the veterinary surgeon, which are varied or combined according to circumstances; among these I will only name a few, as many others may become necessary in particular cases, according to the peculiarities shewn: they are generally of a stimulating nature, to cause the paralysed stomach to act; or partly stimulant, and partly such as will neutralize the gases evolved in the stomach, by forming new compounds. These agents are generally combined with purgatives and simple stimulants, as ginger, cumin seeds, &c.

Spirits of turpentine is a very valuable remedy. Spirits of nitrous ether is an excellent remedy. Tinct. opii highly useful in some cases. Ol. cajeputi is a very useful remedy. Stimulants of any sort may be given on occasions when other remedies are not at hand; even gin, rum, whiskey, &c. have been given with benefit. Ammonia, either as the liquor ammoniæ or the carbonate of ammonia, is a most valuable remedy in early cases, as it unites with the sulphuretted hydrogen gas which is first thrown off, and forms a new inert compound, and also acts as a powerful stimulant to the coats of the stomach.

Chloride of lime in solution, in the latter cases, has often proved useful, by uniting with the carbonic acid gas which is thrown off in the latter stages of fermentation; it acts by forming an inert substance, and thus doing away with the distention. A veterinary surgeon, in very bad cases, is able, through the canula of the trochar, to inject at once into the stomach of the animal any of these stimulants or neutralizing agents with the highest benefit.

Among the purgative agents with which these remedies are usually combined to unload the stomach may be mentioned,

Linseed oil,	Sulphate of soda (Glauber salts),
Castor oil,	Sulphate of magnesia (Epsom salts),
Croton seeds,	Chloride of sodium (common salt);
Croton oil,	

The latter is often highly useful, by inducing thirst, and thus setting the bowels in action. Also, the hydrargyri submuriæ (calomel) is a most valuable medicine, generally used in combination with others to quicken their action, and specifically to act on the liver, causing an increased flow of bile. A mixture of treacle and soft soap has often had a wonderful effect in causing an action of the bowels when other means have failed. These various means have been stated, as frequently the animals may be relieved of the distention from the gas; but the quantity of food taken has so filled the stomach, that it is necessary to be unloaded; as whilst it remains crammed with food, and the rumen in a torpid state, the fermentative process will go on, and a repetition of the hoven will take place.

I have long looked for an agent which could be used with perfect safety by the agriculturist, and at the same time be one of the most likely means of cure, or, at least, which would give such relief as would afford time for other assistance to arrive if necessary. Common hogs-lard is an article which can be procured at every farm-house, and I can speak very highly of its good effects when given in cases of hoven: I have advised the use of it to my friends for the last twenty years, and every succeeding year increases the favourable opinion I entertain of it. I have no hesitation in saying, if it be given at once when an animal is perceived to be swelled or hoven (in the manner I shall hereafter point out), that relief will be very speedily obtained; but, if the giving of it be delayed, more powerful agents may be required. Nineteen out of twenty of the common cases of hoven will be relieved by it, and no after-treatment required; and it has this advantage, that the dose may be repeated with safety. To a feeling mind nothing can be more annoying than to be called to a case, and find the animal dead or past recovery, and to know that, in all human probability, the animal would have been alive under simple remedial means.

If I do not take up too much of your valuable space, I will relate the two following cases, which I think and hope will convince your readers of the efficacy of the plan I propose; and I trust it will not be put aside from its simplicity, as that is the very point I have studied to attain.

Some time since I was sent for by Mrs. Hunt, of Harlington,

with a message that her cows had got into the clover, and that one of them was hoven. Before I could get there, or the cow could be got home to the yard, she dropped on the road and died. Two others I found blown up immensely in the yard. I told Mrs. Hunt that though I had plenty of other remedies with me, yet I should wish her to manage those two herself, and I would shew her how, and then she would know another time what to do herself, and what to tell her neighbours to do in the same difficulty. I then desired her to get me about a pound and a half of lard and a three-pint or a two-quart jug, and to put the lard into the jug and fill it up with hot water, and when it was melted and cool enough, I ordered the men to give half of it out of a horn or bottle to each cow, and then to hold the cow's head out straight while I pressed moderately heavily on the left side of the body, where the stomach blows up most; in about a quarter of an hour or twenty minutes afterwards they were able to walk about, and nearly all the gas had subsided, partly by escape up the throat, and partly by the action of the lard on the coats of the stomach. As they were going on comfortably, I left them, and they did very well.

The next case is one that, I think, will carry with it a very strong evidence of the value of this plan of relief. About a month back the cowman at Mrs. Gostlings, Whitton Place, came in a very great hurry and told me he had got several of his cows hoven, and wished me to see them as soon as possible; he said they had only been out two hours in a fresh piece of grass that had been shut up a fortnight. As soon as he perceived it he came away for me; and while he and my man were putting a horse into a gig, I put into it what medicines were necessary, and a flexible tube, and was not more than two minutes in starting; and although I had less than a mile to drive to the cows, when we got there, three of them were quite dead, and five more blown up so that they would not move, and they required earnest persuasion with the whip to keep them on their legs. I ordered them to be moved as well as they could into the cow-yard close by, and then determined, in this desperate case, to use my remedy. I therefore sent the butler into the kitchen to get about a pound and a half or two pounds of lard, and to put it into a three quart jug with two quarts of hot water, and to bring it to me moderately hot. While he was gone, I gave one of the worst cases some castor and linseed oil, with the cajeput oil and spt. ether. nit. and left one of the worst for the lard, and one also not quite so bad as the first for the same; to the other next worst I gave the oil, and to the fifth I gave the lard. As soon as I had given them their doses, I had their heads held out straight, and their stomachs well pressed down for some time (by two men spreading their hands out wide over the highest part

towards the hip), till we found the wind break off up the throat, which is much facilitated by letting an assistant (while the head is held out straight) lay hold of the tongue and give it a good pull now and then, not a violent one, but sufficient to make the cow try to get it away; then let it go again, and it will generally be found that the wind will force its way up the throat directly afterwards.

The quantity of lard I gave to each was about a pound, and in half an hour, or three quarters at the farthest, they were all out of danger, and would have eaten food if I had allowed them: those that had the oil were the quickest relieved. Although I had the flexible tube with me, I did not use it, deeming it necessary in a fair trial to do without it.

I am quite sure you will feel as happy as I shall if the insertion of the above in your valuable Journal should prove the means of saving animal life; and I am quite sure I shall have the thanks of every veterinary surgeon in practice in the cattle districts, as nothing is more painful to both the medical attendant and the owner, than their meeting together after the animal has died, which now often happens even when every possible exertion has been made to arrive in time to relieve them.

I have no doubt the same plan, if adopted in time, with sheep when blown on clover, would relieve them immediately.

I remain, Sir,

Your obedient humble servant.

ON SHOEING HORSES.

By SHOEING SMITHS.

(Second Article).

Now, Ned, for your experiences. Well, I was thinking that masters and you mates have been writing a deal about springing the heels; but you have not shewn us exactly how this is done, in different cases, by different shoeing smiths; and the advantage to be derived therefrom must, in a great measure, depend upon this. I have a manuscript for the boy to read to us, The "Caliphs*," or stories of shoeing horses of the 18th and 19th centuries. "You

* The title of these stories had its origin in an incident that occurred twenty-five years ago. The late Mr. Goodwin, while writing his excellent practical observations on shoeing horses, laid the old hinge shoe on a piece of paper, on which he marked accurately, with calipers and pencil, the super-

all know how horses' shoes were made : paired in sizes, and when a horse came to be shod, the old shoes were taken off and a pair of the same size were selected to be fitted, i. e. adapted to the hoof. If the heels were high and the sole concave, the shoe underwent no alteration of its upper flat surface, but was nailed on level to the crust from toe to heels. If the horse went tender,

ficies of its oval, and nail-holes. He then opened the shoe a little at the heels, and marked the altered superficies of its oval and nail holes ; he thus shewed it was impossible that this change could happen when the hinge shoe was nailed to the hoof, which circumstance rendered it as much fixed as the ordinary shoe. Mr. Bracy Clark, on seeing this, called out "caliper!"—whether he wanted the compasses, or used this eastern term from being acquainted, as he was, with eastern languages and customs. Caliph-ah! was used either by the prophet or one of his successors, in calling out to skilled workmen, and which Europeans corrupt into caliper. This mode of encouragement of the arts is talismanic in its influence on the human mind in oriental countries to this day amongst others besides Mahometans. Now, we cannot well write Mr. Physiologist—veterinarian or farrier ; but of those that always allow the action of the hoof in shoeing, in contradistinction to those that do not, or do it only *pro tem* by springing the heels of the shoes of a lame horse. It is time the public should be aware which of the two is best capable of shoeing, so as to prevent horses going, as they gradually do, with few exceptions, permanently lame in the fore feet. However, we leave it to the Editor's better judgment, whether the title should remain, or *Mr.* substituted ; bearing in mind for whom only these stories are intended, not for the veterinary student, who receives physiological instruction, but the shoeing smith, one of whom we only yesterday asked what name was on a cart, and the reply was "I do not know ; I am no scholar, Sir." Yet men like this one could listen : the fiction may interest, while the matter instructed. Firemen have the plans of the engineer to work by, the shoeing smith only is without such instruction. An epithet so used cannot offend any one. All engaged in the practice of shoeing have used calipers, and when these are wanting the smith uses straws ; all have, more or less, applied practical mathematics in this art, and it has been, in some measure, systematically applied to solve the problem of the action of the hoof, and to carry out the physiology in artificial application of springs to the heels of ordinary horseshoes, but with what success time only can shew. The school of design has afforded, in works on the foot, some assistance towards this end ; and we are not without hope, that the pages of *THE VETERINARIAN* will afford us, mates, such illustration as it may be able to obtain on the subject of physiologically shoeing horses.

To provide additional labour for the shoeing smith, while at the same time the public will be immensely benefitted, is something in these times, when the political economist fails, producing distress in some classes, endeavouring to relieve others, which we do not purpose to do ; but, as John Lawrence wrote, "these inequalities are unavoidable." If spring-heeled shoes are found to be *commercially profitable*, these only will be used, in spite of all that can be said or written to the contrary ; but if this is not the case, these will only be occasionally used, although the general utility of physiologically shoeing horses be demonstrated, not only by the physiology of the foot by practical mathematics, by the example of the general utility of springs in saving from injury not only other machines and passengers, unequivocally supported by arguments of every kind, or Mr. Gloag's conclusive experiments. Although the great Caliph himself were to rise from the dead, and say with H. K. White,

the shoes were taken off, the heels widened a little, and hammered so that the heels still remained flat, but an inclined plane back-

“The Poet dreams—the shadow flies,
And fainting fast, the image dies;
But lo! the Painter’s magic force
Arrests the phantom’s fleeting course.
It lives—it lives—the canvass glows,
And ten-fold vigour o’er it flows.
The Bard beholds the work achieved,
And as he sees the shadow rise,
Sublime before his wondering eyes,
Starts at the image his own mind conceived.”

If the basis of the spring-heeled shoe, or even the spring itself, cannot be rendered commercially useful by your means, mates, you see other means will be tried. It rests with yourselves whether to be protectionists of yourselves, or let the steam engine and die, after Moorcroft, or the founder and steel manufacturer, after Goodwin, do the work: bear in mind, more powerful persons have not been able to resist free trade, injurious as it is, no doubt, to some, the happiness of the greater number being the intention. But I forget; the *argumentum ad passionem* is of no avail, or I would tell you to look at the poor horses that have crawled off the pitch and tar and the long shoe on to the Lammas lands for relief; if that is not enough, go to Smithfield on that day, Larrey, on which if you are the good catholic you pretend to be, you do not eat meat; listen—only listen to the chaunting you will there hear, over your handy works; and if that is not sufficient, step on to my schoolfellow’s slaughter-house copper in the vicinity; there see how you have brought Nimrod’s condition, that “too, too, solid flesh (*to*) melt;” and then to the confessor and obtain absolution for the misery you have caused.

“By my conscience, now, didn’t I already inform you I had repented me of my sins in this respect; though, faith, I cannot say whether it was my humane feelings or what you have been saying on the subject, or the last pot of half-and-half that did it, or fear of the learned gentleman’s hair and gutta serena.”

“Never mind, Larrey, which it was. It depends upon individuals, whether or not horses shall be physiologically shod, to prevent the necessity of cutting the wires of the electric telegraph; the termini must know what is going on: the springs must place horses’ fore feet, of this variety, under similar circumstances to the hind feet, i. e. although supporting more weight, ‘the collision of two hard bodies, like the heels of the hoof and shoes, must be changed by the interposition of one that is elastic,’ permanently so. But you have said little about contraction. Not yet. I have only come to the reign of the old hat, leather and prunella Caliphs, who, having got themselves into a dilemma, attempted to get out of it by these means. Well, the man with the mask—I beg pardon, the public, poor people—for such subterfuges paid extra, which they will not now withhold for a better invention. It is not necessary, therefore, to supersede the use of ordinary horseshoes, for this variety of horse pay those upon principle at the same price, and if it was, it nevertheless can be accomplished. Independently of this, however, it is easy enough to shoe horses upon principle, to prevent permanent lameness, and its consequences. Those who have used these temporary means of relief have attested their utility; it is only necessary to also try the permanent ones, springs to the heels of the ordinary shoe, to be convinced of the superior utility of the practice.

“Now, contraction.—No, no; recollect what Mr. Bracy Clark wrote about ‘sunk under difficulties of this profession;’ but, no doubt, the great Caliph will also be able to ‘unravel that mystery,’ and of the art altogether.”

wards; and when the shoe was again nailed on, there was a trifling space between the heels of the hoof and shoe when off the ground.

When another horse with low heels and a flat sole came to be shod, the olden custom was to bevil or make concave the upper surface of the shoe from the nail holes, leaving a flat seat for the crust; and if it became necessary to spring the heels, it was done as above stated.

When another horse with low heels and convex sole, from the crust being thin or broken away, the whole of the upper surface of the shoe was bevilled or made concave to the outer edge of the shoe, and applied without paring the sole, so that the crust, as it was, bore on the shoe, and sometimes part of the sole. If it became necessary to spring the heels of the shoe, it was done by widening the heels only, which gave the space required; and if the shoeing smith thought the horse went tender, from the sole bearing too much, he bevilled the shoe more, rather than pare the sole. Thenailing of these shoes was, in general, what is called coarse fullering, i. e. there was a broad bearing of the whole crust on the shoe, except when the heels of the shoe were sprung, which, while the horse did not go lame, was not attended to. Now this, with a little difference in the width of the web, a flat or convex lower surface of the shoe, was old English shoeing; and, in essential particulars, it may be said to have been old German, and old French horse shoeing. The object of this paper has reference only to the mooted question of the present day—the *necessity* of springing the heels of shoes as ordinary practice, i. e. of *every horse*. It would exceed the space you have allowed me, mates, to go into a whole history of the Caliphah.

Now, it was observed, whether horses were unshod or shod, there was a tendency in the heels of the hoof to contract, and that it occurred differently in different horses, both high and low heeled, therefore, the cause became difficult of explanation; but as it was more common in shod horses, the upper surface of the shoe was thought, by Caliph and Sollysell, to be better constructed when made with the plane inclined outwards, instead of inwards, which allowed the heels to be pressed inward by the weight. It was plausible enough that the heels could not contract against the inclined plane outwards of his slipper or panton shoe; but as the *downward* spring of the hoof was still prevented, concussion happened frequently, as with other shoes. Besides, this prevented only one kind of contraction.

The Caliph Lafosse exclaimed, by the beard of the prophet, though that was not short, the shoe should be short, like the crescent. The half-moon shoe was tried, and of course it answered

all the purposes intended, with the high heels of the light horses then common in France, and on unmade roads; but the heavy horses, with low heels, were still obliged to have the heels defended by the long shoe: yet any one would have supposed this Caliph would have carried out the principle by leaving the heels at liberty to act; but this does not appear.

The Caliph Js. Clark did not provide for the action of the hoof with the seated shoe, or Caliph Moorcroft, who afterwards adopted it, and by paring the sole, bars, and crust on the same level the more was this required, because the shoe could not descend.

The above, we believe, is a true history of the practice of shoeing up to the time the great Caliph, Coleman, became Mufti of St. Pancras mosque, and he has left behind him a record of his opinions and instructions on this subject which will never be rivalled; and if his students have not carried these out, the fault was not his. But, to confine ourselves to the point at issue—springing of the heels. He said in his Lectures, “Corns are produced by concussion, the resistance to pressure in a part having motion. It is an extravasation of blood from the sensible sole into the horny sole. It can take place at any part of the sole. I have seen it on the frog and various parts of the sole; but the common seat, and most susceptible, is that part of the sole between the bars and crust of the inner heel, next that on the outside. It rarely occurs in the hind feet, and then not at the heels. The very circumstance of its frequency in the fore feet is from the weight of the animal; and the resistance to the descent of the sole has a great deal to do with it, from the pressure of the shoe or a stone, the sole being morbidly thick, any thing that obstructs the descent of the sole. The sole, too, may be morbidly thin. No particular variety of horse is exempt from this, or from having corns before being shod; but *it is almost always the effect of bad shoeing*; i.e., either paring too little or too much. When a horse is lame, the smith does what we do in health. *This is a curious circumstance, that the smiths have for centuries pared out the corn places.* He takes away the effect, the extravasated blood, when the part is inflamed, and finds good effect. The lame horse, sometimes, immediately goes sound; and *yet, when the foot is in health they will not do it.* They whip off the crust with the buttress before they know what quantity is necessary to be removed; thus in heavy horses not leaving sufficient crust, and then making the sole too thin: but by leaving sufficient crust, and making the sole concave, the pressure is removed, and the pain also. But if the same mode of shoeing be continued, there will still be concussion and corns. I would forgive a man for pricking a horse, but not for my horse having corns; whereas persons are very angry when

their horses are pricked, but do not care so much about corns. They say, if he has a corn one time he will have it always; yet there is no disease that can be so well prevented by shoeing, none so easily cured by shoeing, though it is the opinion they are incurable. The art of shoeing does not depend upon the kind of shoe, but on the application of it, and particularly in paring the foot according to circumstances. Light horses, that go near the ground, require opposite treatment to heavy horses with high action. The former require the sole to be pared till it is thin and pliable under your thumb, and concave between the bars and crust; the latter, the crust to be preserved, so that this concavity of the sole may be obtained. If you wish to save this kind of horse you must preserve crust. *A priori*, we would know that Moorcroft was wrong; for Nature did not make these parts level, but the crust to project below the sole; for turn the horse, with feet pared level, out to grass, and there the feet will recover the original concave shape necessary for its motion or descent."

Now, the above quotation shews one of the consequences of ordinary shoeing; i. e. of not springing the heels when the foot is in health; also, our conduct, mates, when a horse has corns. How we are hereafter to reconcile our practice in the latter case to our neglect of it in the former one, I do not know; that is, if we acknowledge that we have ever seen THE VETERINARIAN. Before those experiments of Caliph Gloag we might have pleaded ignorance; for, in the great Caliph's introductory remarks on shoeing, he said, "The knowledge of the horse's foot is, perhaps, the most important of veterinary studies. The horse's foot we have to preserve in health; other parts we have only to cure of disease. The subject of shoeing is so complicated that few understand it. To preserve the foot, we must have knowledge of the anatomy and functions of the foot, for shoeing is founded upon its physiology; and, from want of this knowledge, arise ninety-nine out of a hundred of the diseases of the foot. The foot is not likely to be diseased more than any other part, in a state of Nature; for, although lameness of the fore feet is so common, some feet are so formed that ignorance will scarcely injure them, except by a prick." I do not know, mates, our numbers in proportion to masters, but taking the former at ninety-nine and the latter at one, it is fearful odds—functions against those that are function-less, could we plead it; but that knack we had of "easing a lame 'un" *has entirely prevented it*. Besides, too, it appears we have not had the credit of shoeing well in the ordinary manner others that did go, as they did for years, sound: as far as we were concerned they went so, *nolens volens*; they sprang their own heels, because we would not do it for them. In other cases we are accused of depriving the

hoof of the spring or concavity, by paring away too much of the crust, and then "concussion to the sole happens," he said, "particularly on the pavement, and that otherwise would not take place."

You see, mates, these are serious charges of omission, and of what we have committed, for which masters have hitherto sheltered themselves from blame under that convenient shield physiology; but, seeing the manner that some endeavoured to carry it out in practice, it is questionable whether they even understood what the great Caliph said about the physiology and practice of springing the heels in his Lectures on flat feet and contractions, from which I will quote what bears particularly on this question, and solicit your attention:—"We will now consider a disease which is confined almost wholly to heavy horses, or to those with high action. Flat, convex, or fleshy feet, the same in kind, differing only in degree. No writer understood the nature of this disease, which throws considerable light on the cause of contracted feet in light horses, or those with low action. You may always know the state of the sole by looking at the crust: in proportion as the crust in front is oblique, so will the sole be flat or convex accordingly. The lame foot will be more oblique in the crust than the sound one: this throws light on the use of the laminæ; the crust cannot be pressed towards the sole without something giving way or being displaced. The sole was never intended to support more weight than that transferred from the elastic laminæ elongating; but here the crust gives way, it is unable to support the weight, and it falls on the sole, which, in consequence, became flat or convex. Now there is not the same obliquity of the crust at the quarters, *the action of the coffin-bone being obliquely backwards*, the anterior part being supported by laminæ, while the posterior is supported by the flexor muscles and tendons, *the descent of the coffin-bone at the heels is not in proportion.*" Now, mark this! Here is a state of the hoof in which, you see, mates, the last spring (of the foot), the sole and crust at the heels, is completely destroyed; i. e., you cannot have spring without motion and elasticity: here both are gone; and the manner it happened is explained by the physiology, not of the laminæ only, but by that of the whole foot.

The state of the hoof supports the truth of the physiology. What more do you want to convince you that, had such a horse had springs at the heels of the shoes, this destruction of the heels and sole, the natural spring, would have been prevented? it would have afforded the necessary support to the heels, and by preventing the heels being worn too much by percussion against the shoe (even though these might have been sprung, or not too tightly nailed on at the heels), and the sole would not have become flat or convex.

The great Caliph has said before, "that if you would save this variety of the horse you must preserve the crust;" and he confirms this by the following:—"The remedies arise out of the physiology. We can increase the growth of crust by blistering the coronet; although we cannot do much to the crust, we can to the sole. To give strength both to the sole and crust, these cannot be kept too dry; indeed, we may say, we should like to employ all the means that would produce contraction. We also take off the shoes, and let the horse stand on pavement without. Applying hot iron to the soles is a great improvement in practice, and this does away with the vulgar prejudice that the hot shoe, as sometimes applied for a few moments by the shoeing-smith, is hurtful; afterwards a mixture of warm pitch and tar, varying the proportions according to the season; this produces a little inflammation and growth of horn; then apply tow, which gives pressure, but not so violent as standing without it on the flat stones; thus you will relieve the horse, but not produce radical cure."

Well, mates; I do not know what you may think after hearing this, but the result is so unfortunate, while the fault, you see, is so decidedly ours, that the best way of getting over the difficulty into which you have got, or rather into which Caliph Gloag has forced you by his screwing propensities (the prophet confound him!), while you are yet in the vice, is to follow master's example—lay hold of the physiology.

The mode of restoring the spring is of little utility. By ordinary shoeing you bring horses of this variety into a similar predicament to flies, in the humane manner they now have of bogging them on a sheet of varnished paper. Mr. Editor quoted steeple-chasing from *The Times*; but, after this cruelty of yours and the fly-catchers, sportsmen may go without any admonition from his worship. As I told you, it will out; while the fly-paper is going round one side of Smithfield, the veterinarian on the other side is shewing, on a sheet of paper only, how you have been bogging horses like flies, hopelessly lingering and struggling to die. The great Caliph goes on:—

"We are in a dilemma;"—there you are now, my mates, when, as he told you, you might have kept yourselves out of it had you availed yourselves of the physiology, as I have stated it in his own words. You could ——. But we did not know, and never should have known how to do this, we were *knowing enough in our own way*. Yes; but you see, mates, that is not sufficient. How do you know Caliph Gloag does not belong to the Society for the Prevention of Cruelty to Animals? This variety of horses are run from necessity, not for sport. You brought them to stand on pitch and tar; "*their throats are cut also.*"

“We are in a dilemma about shoes, we want cover, and yet, from the thinness and weakness of the crust, we are obliged to employ small nails, and there is thus danger of the shoe coming off. You can, in general, make the sole at the heels concave; but, as we said before, if you apply the long shoe, which you can do, you will still have concussion. You can, therefore, apply the bar-shoe, as the frog is always good, and, the bar resting on the frog, the heels are removed from pressure, the crust grows, and the sole, in some degree, becomes more concave.”

Nothing can be more clear than this, that we are not to apply the long shoe, because thus you cannot carry out the physiology; the heels would still be destroyed by the action or weight of the horse; but the great Caliph might as well have sung,

“So it will be when I am gone,
Shoes on the heels will still press on;”

i. e., when the foot is off the ground.

His mind was of this order. Look at his answer to Caliph Sewell: it is as much as saying, I am averse to the labour of it; Caliph Percivall has kindly relieved me of it. Could you have expected from him the drudgery of making an artificial spring to the long shoe? he left that for some of you to do, in a similar manner that all improvements in other machinery have happened.

He could intuitively shew the physiology of the foot, and how to carry it out in practice; he took the ordinary bar shoe, which your fathers, mates, used to lay on the heels, and he immediately directed it to be applied physiologically, so that the action of the hoof could be duly performed. But to make horseshoes, or apply them commercially profitably, never entered his head. He used to say, “The low prices paid for shoeing, in some places, may be a cause of this art not improving: as long as a horse goes sound from the shop, no one cares how he is shod; nevertheless lameness comes on gradually.” All this is too true, mates; but as the public, in general, do not care, this is the very reason why you should all care more, and I will tell you why. He used to say, in regard to horses with flat feet, “let them stand a day or two without shoes on flat stones with pitch, &c.—advise not to work these horses on pavement, or in wet weather.” Now, he knew, in many cases, such advice would be attended to with horses of the opulent; but Messrs. — and Co. seldom could be met with to give a horse such consideration. The horse account is in the ledger. Mr. V. S., shoeing, &c. per contract, profit and loss. Advice is sometimes in the contract, and if not, it would in general be given in vain. Horses standing a day or two, in the course of time amounts to so much, that there is less dividend. We can never get over this. We must so improve the shoe, that horses

shall go without intermission, and “without becoming gradually lame, which (as he said) they certainly do in most cases from ordinary shoeing.” Stop reading, boy :—Why ? What is the matter, Larrey ? I will be after telling you that. It is necessary we should have a little bit of consultation. I just caught sight of a book of master’s the other day, some Saint-Bel, by the powers, I believe it was :—there is a frontispiece of a groom holding a horse, and one of us holding up the foot ; there stands one of our masters, I suppose, by the topped boots ; but there is a rum ’un behind, with a mask in his hand. Well, I took him for Punch, Comus, or some other funny chap ; but they told me it was intended for Ignorance. So thinking the artist meant us, I up with my foot and gave him a kick, Irishman like, forgetting that he was not present, that others were, and the mask might fit them. What ! fit a horse, Larrey ? not a bit, boy ; but sure enough now, didn’t the horse belong to one of the public you were reading about just now ? so I would be after putting the springs in the heels, and tell them nothing at all about it ; let them find it out. But how will you do it without a grant ? Grant of money is it you mean, now ? why, that’s just it. You are doorman, I am a fireman, and times are not as they used to be with us : the railroad mania increased the number of firemen, who were afterwards thrown out of work. Notwithstanding provisions were cheap last winter, many were very badly off ; some got an odd job now and then, more out of charity than from being wanted ; it may be the case again this winter. Now, this addition of springs to the heels of the shoes will give us more work, unless you and masters prevent it, by personating that chap with the mask in his hand. But if you do, I have one small bit of consolation left,—you will not be able to entirely prevent it, for if you do not have the shoes made, they will be cast after the late Mr. Goodwin’s invention. I heard they were already in the founder’s hands ; the iron trade is much altered since 1825, and if cast shoes were not then commercially profitable (and which only sent them out of use), they may be so now (no one could deny the practical utility of cast shoes), and to which we shall still have to make and attach the springs now in use by some.

But, masters might as well give some of these poor firemen work for making spring shoes for next season, instead of their sending ten miles from town for ordinary ones.

You are right, Larrey : times were, when such a fireman as you could have obtained two guineas a-week in any shop in or about town ; but so many went about, like the lamp man in Aladdin, crying new shoes for old, that the old shoe was lost, and the luck too. Notwithstanding what the learned gentleman says to the contrary, in his notes on horse-shoeing in the “United Service

Magazine," there is a spell in the old horseshoe which we have, by Caliph Gloag's magic, got again, springing the heels and all; it is not to be found in that composition of hair and gutta percha. Why, I shall take another opportunity of shewing.

Had you attended to what the great Caliph said, the spell would never have been broken: instead of that, you only did so occasionally, and then only the luck returned to the lame horse.

COD-LIVER OIL IN INFLUENZA.

By G. T. BROWN, M.R.C.V.S., Infirmary, 40 and 41, Park-crescent-mews West, New-road.

To the Editor of "The Veterinarian."

September 12th, 1849.

Sir,—I AM induced to forward the particulars of the following case, as well from the peculiarity of the symptoms evinced as from the successful use of an agent, novel, as far as I can discover, in veterinary practice.

I remain, Sir,

Your's respectfully.

Saturday, January 20th, 1849, a brown coach horse, six years old, was observed to be slightly lame in the off hind limb, with swelling on the outer side of the hock. No notice was taken of the matter beyond fomentations to the part, the enlargement being considered the result of a blow from some part of the stall. Sunday morning, however, at ten o'clock, I was summoned in haste, and on my arrival found the following alarming symptoms:—

General stiffness and incapability of motion—swelling, heat, and tenderness of the off stifle, both hocks, and the fetlocks of all the extremities—pulse 64, and weak—respiration much accelerated, and carried on with extreme difficulty from the obstruction consequent on mucous accumulation; there was also discharge of transparent fluid from the nostrils. A careful examination by auscultation demonstrated the main accumulation of mucus to exist in the ramification of the bronchiæ, the upper part of the trachea being comparatively free, while the absence of inflammatory action in the parenchyma of the lungs was inferred from the vesicular murmur being but little interfered with. I was beginning to despair

of finding an available term, when the very convenient one of Influenza came most opportunely to my aid, and was immediately appropriated to the purpose.

Treatment.—Proceeding from a knowledge of the pathological condition of parts, this important division became obvious. We had, if not existing, certainly rapidly advancing debility; the mucous inflammation was sub-acute, and, notwithstanding the urgency of the symptoms, there existed no foundation for active depletive measures. The peculiar action of ether in restoring impaired secretion and equalizing the circulatory functions seemed particularly indicated. The constipation was combatted by hyd. chlor. cum pulv. opii in small and repeated doses, combined in the onset with a drachm or two of aloes. The excretions generally were attended to by salines given in the animal's water; and the more alarming symptom of laboured respiration from the existing obstruction attacked by inhalations of the vapour of hot water poured on hay, and by the application of mustard and ammonia to the chest. The enlarged joints were kept wet with a weak solution of acetic acid.

Towards evening the symptoms becoming more aggravated, I felt constrained to withdraw blood, continuing the inhalations at intervals during the night: the adjunctive aid of enemata was, of course, called in. A quarter of an hour after venesection a profuse perspiration covered the body, which was encouraged by clothing.

Monday, January 22d.—Marked and general improvement—pulse 54, soft—respiration tranquil. Continue same treatment. Allow mashes and carrots.

From this point commences the main peculiarities of the case: by six in the evening the patient was markedly lame of the near hind leg; the stifle on that side presented the same appearance as did the opposite one at the commencement. Foment, and apply lotion.

On Tuesday morning symptoms evidence laminitis, heat of fore feet, shifting action, and frequent recourse to recumbent posture. The shoes were accordingly removed, and the feet, after being well pared out, placed in warm poultices: the tumefaction of the near stifle had subsided.

Examining my patient in the evening, I found him suffering from pain in the off hind leg, the fore ones being much improved; the right hock was now ascertained to be much tumefied.

Wednesday morning, January 24th.—On entering the box, I was staggered to find the whole of the primary symptoms present, with the addition of head swollen—difficulty of deglutition—tumefied parotid glands—constipation present. The treatment comprised laxatives and febrifuges, with fomentation and subsequent coun-

ter-irritation to the throat. To trace the disease in its daily variations would occupy too much space and be attended with too little real advantage to justify the attempt; suffice it to say, the prior description will apply to the subsequently observed symptoms. The patient would for a day or two seem rapidly to amend, then an exacerbation would occur. Tumefaction one day in the knee would be replaced by enlargement in the hocks or stifles in the next. The stertorous breathing would ever and anon recur with all its intensity; while the hollow sonorous cough and the extreme emaciation, combined with the evidence auscultation afforded, left no doubt of the existence of chronic disease of the lungs. Up to Monday, Feb. 12th, the treatment, of course, varied with the symptoms, but essentially consisted of tonic agents.

Another examination by auscultation convinced me of the presence of vomicæ in the right lung, and from other symptoms I had fair reason to infer tubercles; in fact, the disease might be now designated phthisis pulmonalis. Mr. Varnell, demonstrator, who had seen the case at various periods, and felt as much surprised as myself at its ever-changing aspect, made a careful examination this morning, the result of which confirmed my diagnosis; the respirations stand between 30 and 40, pulse 80, and much debility present.

The agent, cod-liver oil, the use of which had reached a perfect furor in human practice, occurred to me as well worthy a trial in this case. Accordingly I procured some of the impure oil, and commenced its administration on Thursday, February 15th, in doses of half-a-pint three times a-day, using also vegetable and mineral tonics with generous diet: he continued markedly improving in condition up to March 6th, when the dose was decreased to one pint per day. Exercise well.

Thursday, April 5th, 1849.—A primary symptom is this morning present, namely, enlargement of the off hock and lameness.

Friday, April 6th.—All the former symptoms are present, the stiffness of movement, enlarged joints, and stertorous breathing, the only point in our favour being the improved condition of the lungs. Inhalation, counter-irritation, and febrifuge medicine, were had recourse to, to the exclusion of the oil, till Sunday, April 9th, when he was so far improved as to warrant recurrence being had to it: he continued till thus April 30, without any further return of alarming symptoms, when medicine was discontinued, and the patient sent to the marshes.

Thursday, July 26th, 1849.—Hearing the horse had just returned, I proceeded to examine him, and was much gratified by his condition. Auscultation develops a little membranous thickening in the bronchiæ, and he is a decided roarer: some enlargement still

remains in the hock joints. The animal was carefully put to work, at which he has continued to the present time. When urged beyond a fair pace, he makes some noise in respiration; but in the question of usefulness he stands almost as high as ever.

Remarks.—A common way of settling the question of the cause of emaciation in chronic pulmonary disease, is to say that the blood is not properly oxygenized, which I hold to mean that, in consequence of the smaller extent of surface, the amount of oxygen taken into the blood is not sufficient for the purpose of supporting life. To the casual inquirer this is a very simple way of escaping a difficulty; but a close analysis will shew the answer to be any thing but a satisfactory one. What is the invariable effect observed when an animal is placed in such a position that he will inhale the smallest possible amount of oxygen; in other words, in a state of quiescence?—a deposition of hydro-carbonaceous material on the surface of his body in the form of fat, of course assuming that such material has been furnished in the food. Again, what effect is observed in chronic pulmonary disease, still assuming hydro-carbon to be taken into the system in the usual food?—a rapid removal of such matter. A mere admission of these two positions shews us the fallacy of assigning the cause to imperfect oxygenation. If a smaller amount of oxygen were taken in, a smaller amount of hydro-carbon must, of necessity, be consumed, and, as an inevitable result, a larger amount of fat must be deposited. To the extent of surface in diseased lungs, that is, where tubercles and vomicæ exist, I do not attach much importance; for one invariable effect of this is increase in the number of respirations per minute, mostly to double the normal amount: therefore, even allowing the surface to be lessened one-half, we should still have an equivalent quantity of oxygen in a given time taken into the circulation. To account for the emaciation in respiratory disease, we must first look to sympathetic disease of the digestive organs and nervous system, by which nutrition is interfered with. The amount of hydro-carbon taken in is insufficient to supply fuel for combustion; and so far from the quantity of oxygen being relatively less, it is relatively greater than in a normal condition; while the absence of fatty matter is in a measure supplied, I think, we may infer by the decomposition of protiene, which, instead of suffering only a sufficient amount of oxydation to form fibrine, is partly taken to play that part in the functions of the animal economy which in a state of health is destined to the fatty tissues: thus we account for the obvious wasting and deficiency of animal heat.

This reasoning is supported by noting the successful administration of agents containing large proportions of fatty or hydro-carbonaceous matter; as in the use of naphtha some years ago,

and more latterly of cod-liver oil. The last agent is known to contain iodine, and probably bromine, in chemical combination, to which are ascribed, I think justly, much of the benefit resulting from its use. The *specific* action of iodine on diseased depositions (I use the word advisedly) is so *peculiar*, having been so frequently brought under my notice, that I cannot consistently refuse to be convinced. From these observations, the motives that actuated me on the use of the agent may readily be gathered. I ascribe to it no miraculous power. I esteem it valuable in affections simulating phthisis; first, because it furnishes a large quantity of hydro-carbon for the support of combustion; and, secondly, because it contains in iodine a means of restoring healthy action in diseased structures, the appetite being repaired and the tonicity of the system aided by tonics and generous diet.

Apologizing, Sir, for intruding so much on your valuable time, I will merely pause to remark, that I considered the case chiefly interesting from the length of its duration, the frequent recurrence of violent symptoms, and the successful termination; which latter circumstance caused many persons who had watched the proceedings from the first to express, in homely terms, their conviction, "that the horse had as many lives as a cat."

HEAD-GROOMS, AND GROOMS IN GENERAL.

Mr. Editor,

FOR the last dozen Numbers of your valuable Journal I have been looking for an observation headed "The Greatest Plague of Life," at least to the veterinary profession; it is the Head Grooms, and Grooms in General, I allude to. These devils walk into the profession with the most brazen assurance, and, if you don't walk down their throats to find their hearts, it is ten to one but you have to leave this "vale of tears" without ever witnessing one. There are no people under the sun so well done by as gentlemen's servants; they live on the fat of the land, have no cares, no anxieties, and are paid out of proportion to their labour. But inflate the groom with beef and beer, and the boasting braggart will assert he can do this and that better than any veterinary surgeon or farrier. Instead of seeing his saddle-room shelf studded with bottles and boxes, his master ought to insist upon seeing a good assortment of combs, brushes, scissors, towels, buckets, sponges, leathers, knee pads, and such like things; and, above all, in grooms, abilities to use them properly. We think of an old saying of the Earl of

Pembroke's—"Whoever lets his groom or coachman, in consideration of his having swept the dung out of his stables for a greater or less number of years, ever even mention any thing more than water-gruel, a clyster, or a little bleeding, and that too very seldom, or pretend to talk of the nature of feet, the seat of lameness, sickness, or their cures, may be very certain to find himself very shortly quiet on the foot, especially as to shoeing." You will see the poor shoeing-smith tremble at his voice as he comes into the stable. It is, "Jack" or "Bill, take a h—ll of a deal off that horse's feet;" or, "It's that shoe is devilish too long or too short, or too heavy or too light." It's no matter how poor Bill tries to please him; he is never twice alike. Poor Bill is obliged to put up with all this; and for why? Because Master Don of the Roller gives him, after a good cursing, a horn of his master's beer. Alas, alas! how Father Matthew would treat this Master Plush; and so would poor Bill if it was not for the beer. I have myself seen poor smiths—for instance, in a village where the squire is petty king, and owns the whole of the freeholds—bound down to that degree, that if Master Hisser don't like him, Master don't like him either;—for why? because poor Billy cannot afford to give him, the groom, discount; so Master Plush soon finds out that Lady Ann Goldstick or Robin Hood goes lame. The Squire says, "How is this, that Robin Hood goes lame?"—"Oh! I don't know, unless he be lame from shoeing." He forgets that he gave him a six-miler on the hard ground the day before. Oh, no! poor Vulcan carries it all. Then the Squire says, "You must seek for some one else to shoe the horses; I must not have them lamed." Now, here is a chance for Plush and the discount: he applies to some far-famed shoer—probably famed for giving discounts—and so attains his end; and poor Billy is only allowed to make dung pickers, &c., for the establishment any longer; and this is all through Mr. Plush.

And now for their veterinary knowledge. If a groom can give a ball and bleed a horse he is considered competent to treat for lameness and sickness—giving a ball, indeed, is about the extent of the groom's abilities in the physicking line, the proper preparation of a horse for it being much beyond the stretch of his intellect.

If a horse is difficult to purge, instead of lengthening the period of his preparation, they want an increase of aloes, until we have seen a poor brute with near a dozen drachms of aloes in his guts. In these cases they always swear the aloes is "bad," or something like this; any thing but their bad management is in fault. Some of them are fit for nothing but inventing excuses; and uncommonly quick and clever they are at saddling the veterinary surgeon with blame, if he does not allow them discount. Now, let any gentle-

man who would wish to do what is right to veterinary surgeons and shoeing-smiths, instead of inquiring into a working groom's scientific acquirements, his knowledge of White and Taplin, and other nostrum-mongers, prefer placing him in a loose box beside a dirty hunter, and seeing him set to work, ten to one but poor Plush begins to hiss and teaze and tickle the animal, with his ill-arranged whisp; or, having scraped a certain quantity of mud off his belly, will proceed forthwith to plaster it over the ears by way of making it comfortable about the head: still this character is to be a judge of shoeing, and all the ills that horse-flesh is heir to, and to give his opinion to Master of the abilities of Mr. Aloes, the vet., or Elijah Bullwaist, the shoeing-smith.

Now, Mr. Editor, I think you will agree with me in this point—that it is the duty of every gentleman, before he changes his veterinary surgeon or shoeing-smith by the persuasion of his groom, to inquire into the cause why Mr. Coachee wants to change; and I will venture to say, ninety-nine out of every hundred will be found at the bottom to be Discount *versus* Self-Interest.

About three years ago I knew a poor shoeing-smith in the country that suffered from one of those dandy brushers. His master kept four hunters and two hacks. It was the groom's plan to have one shod at a time. He would go to the smith's house, after the shop was shut up for the night, before he wanted to have his horse shod, to tell the smith to be there in the morning to shoe Verity, &c.; his object being for the poor smith to ask him in to take a glass of grog o'er a pipe. I assure you this was a regular thing, insomuch that he drank all the profit of the six horses, and poor Elijah was obliged to give up the grog. The groom came a few times without the grog, but not many before the brown horse was lame. The master was acquainted with his lameness, and the question was, "Where do you think his lameness is?"—"Oh, sir, I think it is from shoeing: we had better have Mr. So and So from so and so, a man famed for shoeing" (but more so for discount). The answer was, "Well, I must not have all my horses lamed!" Accordingly, Mr. Discount is sent for, and the groom gains his point. Now, it is precisely the same with the veterinary surgeons as with the shoeing-smiths. I feel confident that the majority of the veterinary profession will agree with me, that these over-fed lackies are the greatest plague of life.

Yours, &c.

DISCOUNT.

Sept. 13th, 1849.

PUERPERAL FEVER IN A COW.

By W. Cox, M.R.C.V.S., Ashbourn.

Sir,—IN June, 1848, I was sent for to attend a cow, the property of Mr. Beard, of Kniveton, near this place, and I found, when I saw her, every symptom of that malady which has generally been called *milk* or *puerperal fever*.

The animal was completely paralysed; I never saw one more so in this disorder. She was unable to lift up her head; and when raised, the lower jaw hung pendant, as though she was dead. The power of deglutition was lost—her eyes were amaurotic, and when the conjunctiva was touched she would not close the eyelids—the pulse was slow but oppressed—the respiration slow but regular—and there was that peculiar moan which is always heard in this complaint. I need not say that these are the symptoms of puerperal fever in its latter stage, and that the secretions were all stopped. But the secret has still to come out: this cow had not calved.

I learned from Mr. Beard that symptoms of calving had first appeared about twelve hours previous, and that these continued for about two hours. As soon as she lay down all her throes ceased, and she was never able to rise afterwards.

I found the cow fully prepared for calving, and the foetus in the passage. Ropes were attached to the foetus, and it was dragged away without producing one pain or throe. The cow lay all the time as though she was dead. She survived fourteen hours after parturition.

CASE II.—During my residence at Leek, I met with one case where the symptoms of puerperal fever were fully developed before calving. The cow belonged to Mr. Poninton, Leek. Extracting the calf in this case also produced no pains or throes. She likewise died.

This disease is evidently of an apoplectic character. Plethora is considered by most practitioners to be the predisposing cause, and the shock upon the nervous system caused by the act of parturition to be the exciting one.

From these two cases we may infer (and I have seen others), that the act of parturition itself is not the exciting cause, although I have never seen this disease at any other time.

Why this disease should attack cows alone, and not others of our domesticated animals, even those that are analogous in structure, I am at a loss to know, there being not one well-authenticated

case to the contrary on record; and I am sure I never saw one. When I write again upon this subject I will send you some successful cases, with the mode of treatment adopted. In two instances the animals might almost be said to have risen from the dead.

Yours, most respectfully.

14th September, 1849.

RUPTURE OF THE VENA CAVA IN A SOW.

By CAUSTIC.

A SHORT time ago I was requested to attend upon a sow, about a mile from my house. I happened to be going that way, so I was quickly upon the spot, though not before the pig was dead. I ascertained she had eight pigs about a month old, and was herself in good health. She ate a hearty breakfast, but in a few minutes afterwards began to vomit, and to stagger as she walked, especially with her hind quarters. These symptoms increased until her death, which took place in about an hour afterwards.

Post-mortem examination.—The contents of abdomen healthy but pale; the heart and lungs the same; but in the thorax I found about three quarts of dark coagulated blood, which, upon closer examination, I discovered had escaped through a rupture in the vena cava, at the place where it enters the thorax, after having pierced the diaphragm. This, of course, accounted for death.

Not having seen a similar case on record, I thought it would be acceptable to your pages.

SEVERE CASE OF IDIOPATHIC FARCY ON THE FACE OF A HORSE.

By Mr. W. A. CARTWRIGHT, M.R.C.V.S., *Whitchurch, Salop.*

“When the head itself becomes the part attacked by farcy, we may entertain the greatest apprehension of glanders approaching.”

Percivall's Hippopathology, vol. iii, p. 309.

ON Monday, February 7th, 1848, I was called in to attend a large strong half-bred cart horse, ten years old, the property of Mr. Betteley, of Ightfield Heath. He was in good condition, and every care was taken of him. There was thought to be but little

amiss with him, only off his feed, or, as the owner said, "he had no stomach."

Symptoms.—Appetite bad; looks hollow; pulse a good deal quicker than natural; costive, and the fæces are slimy; mouth hottish; respiration natural. I fancy he is only out of sorts from derangement of the stomach and intestines.

Treatment.—About three quarts of blood had been taken from him two or three days ago. Give alteratives of aloes, resina, et ant. pot. tart.

15th.—From last date to the present I only saw him once, as it was thought unnecessary to see him oftener, during which time he had been taking the medicine, and had had mashes, turnips, exercise, &c.

To-day the owner's son called to say that for the last day or two the horse's nose had commenced swelling; and that there were several pocks upon it, some of them suppurating; and that he would scarcely allow it to be touched. In the afternoon I saw him, and I was much surprised to find that what he called "pocks" were nothing more than farcy buds. His nose was swelled a good deal, and on it there were numerous small farcy buds, some in a state of ulceration, and others not. On the sides of the cheeks there were a great many other farcy tumours in different stages of disease.

I also found that the off hind leg was swelled from the foot to the body; and on the inside of the thigh I could feel a few small farcy tumours. There was also a larger one on the rump. The lymphatic glands under the jaws were enlarged.

Treatment.—Touch the ulcerated buds with the actual cautery.

16th.—Give ʒij doses of cupri sulph.

17th.—More of the farcy buds on the nose and cheeks have suppurated. Clean and dress them every day with a saturated solution of cupri sulph. Give cupri sulph. ʒij, potassæ iodid. ʒij, lyttæ gr. v, every day in a ball.

21st.—The ulcers covering the end of the nose look more healthy and are granulating. There is a great patch of ulcers on the near cheek, and also a great many ulcers on the off one. I think the upper lot of buds on each cheek are not running on so fast to supuration, but are rather declining. The submaxillary lymphatic glands, especially the near one, is rather large. This day I sent eight powders with ʒij each of cupri sulph., to be given in his water twice a-day, and also six balls, each containing potas. iodid. ʒij, lyttæ gr. v, sem. carui ʒij, zingib. ʒss. One to be given every day.

26th.—The buds that first appeared are looking healthy, and are filling up. Those at the upper part of the cheeks are still declining, and no others are appearing higher up. The near cheek is

a mass of raw ulcers, but beginning to granulate and cicatrise. On the off side of the cheek they are not so numerous as on the near one; but still they are numerous, and are going on well.

He will not take the copper in his water, which, consequently, was made into balls, and given regularly. His appetite is better, and the medicine has not apparently disagreed with him. His off hind leg is a good deal swelled about the hock; but I do not think the leg, generally, is any worse; indeed, I think the few farcy buds are not so large on it.

That on the rump is about the same. I do not see any fresh ones on any part of the body, except one the size of half a walnut on the off side, about a foot from the elbow, situate near the spur vein. Give cupri sulph. ʒij, potas. iodide ʒj, sem. carui ʒij, lyttæ gr. vi, zingib. ʒj, once and twice every other day. To be well exercised for an hour twice a day, and to be fed pretty well. No discharge has yet appeared from the nostrils.

29th.—The wounds on the off side are growing up, and those on the near look more healthy. Several fresh ones on the front of the face, half way up between the eyes, are suppurating. The face and nose are hotter than I ever have felt them, and the wounds are covered with more than usual dry hard scabs. No fresh buds have appeared, and those on the abdomen and hip are less. As I thought he was a little feverish from the medicine, I ordered it to be discontinued for a day or two. Cleaned and touched the ulcers with argent. nit.

March 4th.—Going on well. Touch the ulcers with the caustic.

8th.—Ulcers on the off side of the cheek are nearly healed up, and on the other are lessening. Send four balls, each containing cup. sulph. ʒiij, sem. carui ʒij, lyttæ gr. x, zingib. ʒj.

13th.—Still improving; but on the near cheek there is an enlarged absorbent running towards the ear. Dress the wounds, and smear some flour on their surfaces. Send six balls each containing cupri sulph. ʒij, potass. iodid. ʒj, zingib. ʒj, sem. carui ʒij, and an ointment composed of hyd. biniodid. ʒss, adipis suillæ ʒij, to rub on the cheek where the absorbent is enlarged.

21st.—Better. The absorbent on the cheek is less, and ulcers are getting healthy, and healing up fast. The gland under the jaws on the near side is a little less, but still large. Give a ball occasionally. To have half a day's work at a time, and to be well kept. The leg does not swell now, and the buds on the different parts of the body are nearly gone.

Shortly after this he got perfectly well, and has remained so to the present time, without the slightest relapse.

ON SHOEING HORSES.

By ARTHUR CHERRY, *M.R.C.V.S.*

[Continued from p. 503.]

IN continuing the subject of shoeing, I shall, in accordance with the promise in my last communication, examine into the nature of Mr. Gloag's recorded experiments, and the correctness of the deductions he has arrived at from them; because, unless we know the functions of the foot, it will not be possible to understand the best method of applying or of selecting the most appropriate kind of shoe for the different varieties of feet. Now, it unfortunately happens for all theorists that, though the foot is naturally composed of the same organisation in every individual of the genus *equina*, yet, like the "human face divine," the modifications are so endless that a mask made to fit one face will probably not fit one other individual in the whole community: so with a horse's shoe; and this not only in the mere configuration, but differing in so many important points that, save being made of the same material and applied to the same part of the animal, no practical resemblance remains.

Further, in the fitting of a shoe to a horse's foot, the ease to the animal and the utility of the thing itself give so small a scope for variety, that the ingenuity of fashion or the exuberance of fancy are, in a great measure, if not entirely, excluded; unlike the tailor, who, in the making of a coat, provided that the shoulders be comfortably covered, has certain other parts upon which he may display his taste or fancy without in any great degree interfering with the value or usefulness of the garment; the collar, the cuffs, the skirts, are all so many appendages which, in great degree, are open to any fashion caprice may dictate; no such redundances can exist in a horseshoe—it is the *utile in re* that must be alone looked to. A glimmering of so simple a fact evidently pervades the minds of the many theorists that have for the last half century put forward their views on this subject; and this glimmering has just been sufficient to enable them to jump from one extreme to the other, entirely thrusting on one side the "happy mean" in which utility consists. One set of theorists begins by telling us that the shape of the foot is a truncated cylinder; another, that it is a truncated cone; another, that its circumference is composed of segments of different circles; another, it is elastic in one direction. Again, up start others with opposite opinions, and each and all are so ready to do battle on the question, that he, and he alone, is right, and the others

are wrong. The same with shoes jointed at the toe, or, to make the farce the greater, at each quarter; spring-heeled, frog-barred, oblique, single or double barred, pantoufle, and a host of "patents," "improved," and nobody knows what besides; each set forth by the projector as the only one "*universal*," "*safe*," and "*perfect*," shoe that shall make an animal go sound, and "*preserve*"—God save the mark!—the foot in its natural condition, or, as the blacksmith at a village not a hundred miles from Twickenham wrote on his sign-board "*horses shod AFTER Nature and ACCORDING to art.*" But, alas for them, when others, less warped by prejudice, put these various vaunted views to the test, they vanish into thin air, and, sooner or later, return to old practice and opinions, and too often form the conclusion that nothing out of the old beaten track is to be done; and in great measure it is too true; but the road of improvement in which much good might be achieved is left neglected, and the poor suffering uncomplaining animal is the victim.

Each theorist in succession assumes that the foot of every animal is the fac-simile of some ideal model, as faithfully copied in every instance, save in size, as a cast from the same mould. It would be a most fortunate thing for us who have to practise the art of shoeing were it so; but, alas, how different does experience teach us—as I once heard expressed by one who has given this subject much attention, Mr. James Turner, "*every foot is a study in itself.*" A volume could not express more: it is the very epitome of truth.

But to resume. In the first place, it will not be requisite to go through the whole of the twenty-four experiments *in limine*; and though I am about to remark on them, I can only say, I am glad to see that so much labour has been bestowed on the subject, regretting, at the same time, as I do most sincerely, the useless labour and false manner in which a large number have been carried out, putting the parts into positions and under circumstances which never can exist in Nature, and are, therefore, at once thrown out from all purposes of inference and of criticism. Need I further than mention experiments 6, 7, 8, 9, 10, 11, 13, 14, 17, and 19, in which dead parts are placed in a vice, and forcibly squeezed together in a manner and in a degree that never exists in nature under any circumstances. To criticise such experiments as these would be useless—a mere waste of time and space, and an insult to those who have any knowledge of the subject or any reflective powers. I shall, therefore, confine myself to the results given at pp. 382, 383 of your Journal for July.

Conclusion 1st:—Erroneous; or how is it that horses will not bear to have the shoe attached by nails driven at the quarters on

both sides? Nay, further, why does a shoe which has not a level seated surface but is bevelled inwards, cause so many horses to go lame? though many feet may resist injury from it, one instance in ten thousand upsets the conclusion. There is in many feet an appreciable expansion in action; and further, expansion takes place independently of growth above, as I this day (Sep. 3d) saw a horse which was shod under my own inspection on the 30th July, who has been since in a loose box and at grass, in which the shoes some days ago had to be taken off and made wider at the heels, *nearly half an inch*, in consequence of the spreading of the heels: growth from above would not account for this.

Conclusion 2d:—Difficult to criticise, from its mixture of error and truth, and from the ambiguity and obscurity in which it is expressed. As far as I can understand it, much of the remarks on conclusion 1st, will apply to this; but further, the frog does descend at the posterior part in a greater degree than at the toe, and expansion takes place in the bars, or, more properly, between the bars and frog, that portion of the frog-band covering the junction of the bulbs of the frog and the angles of the heels, when in a healthy condition, yielding in a slight degree, or why do horses in which this part has become rigid and preternaturally thick, go lame, and upon its removal (even to the starting of the blood) go sound at once? Further, why is it that in these kind of feet we so often find that Nature has relieved herself by a fissure, even down to the secreting surface.

Conclusion 3d:—A contradiction in itself to the preceding conclusion; and the observation on the springing of the heels of the shoe I shall remark on when on the subject of shoeing in particular.

Conclusion 4th:—I have already shewn that the descent of the frog is not entirely governed by the descent of the heels. Except in the case of a bar shoe pressing directly on the frog, ordinary shoeing does not render the base of the frog a fixture: the part that is the most thrown out of action (that is descent) is the anterior part of the frog, as is shewn, first, by the small quantity of elastic material to be acted on, and, secondly, mechanically demonstrable by the fact of the sole being arched from side to side, the extremities of such arch abutting against the crust, which is buttressed, as it were, by the nails driven through the crust, and held in their places by the unyielding iron shoe.

Conclusion 5th:—If “no appreciable descent of the horny sole in moderately concave feet” means, that such descent is not visible to the eye, I agree with it; but, as a general rule, the sole does appreciably descend, as is shewn by the necessity that exists to avoid any pressure to that part: it may not be more than a 50th or even an 100th part of an inch, an extent hardly appreciable to

our senses, but which is shewn to be painfully appreciable to the horse.

Conclusion 6th:—Is sheer twaddle, unworthy of comment?

Conclusion 7th:—That the laminæ themselves are *inelastic* in the longitudinal direction, is self evident, from the fact of their being attached so intimately to a body (the horny crust) in this direction also inelastic; that the elasticity of this part of the foot, as has been shewn by Mr. Percivall, is due to the presence of an elastic tissue covering the coffin bone, and allowing of a certain degree of separation of that bone from the laminæ.

Much has been said on the expansion of the horse's foot; but, to my mind, a vast deal of time and space have been wasted in refinement, much akin to "gilding refined gold," or "adding perfume to the violet." Look at the structure of the foot how you will, you find it composed of some parts of yielding and others of an unyielding nature, besides those which belong to the locomotive powers of the limb; some of these parts are alone capable of yielding in one direction, as the crust and cartilages; some compressible as well as elastic, as the elastic frog—which, by the way, has been only looked on as being elastic, but it is, in fact, both elastic and compressible, two very different functions for a part to be possessed of.

The fact of the principal action of the foot being a "yielding backwards and downwards," is one of those things so generally known and understood that it has not been thought requisite to be particularly taught, any more than it is necessary to teach that the action of the jaws is to open and shut; and had it not been for the particular emphasis which has been laid on expansion by the Coleman and Clark school—a hobby which has been run so hard that it has been for years completely foundered—the more simple and true knowledge of the functions of the foot would not have been so overlaid.

The action of the foot is elasticity in every direction, save in the direction of the fibres of the hoof; the greatest in degree at the coronet, the more especially at the heels; the least so at the lower part of the circumference of the hoof; at the toe itself none at all.

With these observations, which have been penned in sorrow, not in anger, I shall conclude this part of my subject, and shall proceed in my next to consider some of the varieties of feet, before I enter on the description of different kinds of shoes, and to what kind of feet they are the best adapted.

I am, Mr. Editor,
Your's obediently.

Sept. 3, 1849.

RUPTURE OF THE DIAPHRAGM.

By J. T. COCHRANE, M.R.C.V.S.

Dear Sir,—I send you the following case, as it is one not of every day occurrence, and which, if you think worth while, you can insert in your valuable Journal, *THE VETERINARIAN*. I shall always be most happy to contribute to it, my only wish being for the advancement and improvement of our common profession.

I am, dear Sir,

Your's obediently.

W. Percivall, Esq.

I WAS called in on Friday evening, the 11th of September, to see a bay mare belonging to the 1st or King's Dragoon Guards. I was informed by the farrier of the troop that she had been on parade that morning and gone through rather severe exercise in the barrack-yard, a place somewhat confined for cavalry evolutions, and was pulled up suddenly after a charge. In about an hour after her return to stable she began to evince symptoms of abdominal pain, and continued so until five o'clock, P.M., when I was sent for. The farrier had given her a couple of doses of gripe mixture at the time. The symptoms she presented were as follow:—Constantly shifting her position—head stooped and turned to one side, the right—hind quarters crouched and turned to the same side as the head—body bedewed with cold perspiration—pulse quick, and hard to the feel at the jaw—membranes highly injected—no disposition whatever to lie down, and could not bear the least pressure on the left side of the abdomen about the region of the stomach and spleen—attended with a peculiar lifting of the flanks, indicative of broken wind; but found on inquiry her lungs were previously sound; no tympanitic appearance of the abdomen.

Treatment.—Gave her a draught composed of spt. tereb. and spt. nit. ætheris, with tinct. opii, more as a placebo than any good expected from it, as I told Colonel Smith, the officer in command of the squadron here, after closely observing her for a few minutes, that there must be internal injury, which I suspected to be rupture of the diaphragm, and that at the left side. She had passed nothing from her bowels, but her kidneys acted as in health.

10 o'clock P.M.—Inflammatory symptoms considerably increased. Asked if she had lain down or attempted to roll herself. She had lain down merely for a couple of seconds, and made no attempt to roll. This confirmed me in my opinion as to the nature of the injury, along with the peculiar action of the flanks: there was no disposition to sit on the haunches, mentioned as a leading symptom by

many of our professional brethren. Ordered her merely to be watched, with antiphlogistic treatment. The symptoms continued the same until about twelve o'clock on Saturday evening, when she fell down and died.

Sectio cadaveris.—On opening the abdominal cavity, the intestines presented every appearance of violent inflammation, and on removing the large ones, the diaphragm shewed an extensive rupture on the left side, through which the stomach, spleen, and a great portion of the small intestines, had passed into the thoracic cavity. Considerable effusion into both thorax and abdomen; and also, singular to say, the stomach presented in its great curvature a rupture about two inches in length, through which a considerable portion of food had passed into the thorax. Mortification had set in both in the stomach and intestines; on the least pressure my finger would perforate to the stomach; heart and lungs, with all the other viscera, perfectly sound. This mare was considered one of the soundest animals in the regiment, her age fourteen years. Query, Was the rupture in the stomach a primary or a subsequent affair? I am induced to think the latter, from the accumulation of gas, and strangury, or perhaps when she fell, from the distended state of the organ.

* * We agree with Mr. Cochrane in regarding the rupture of the stomach as "a subsequent affair."—ED. VET.

VETERINARY JURISPRUDENCE.

COUNTY OF DOWN QUARTER SESSIONS, *Hillsborough, July 2, 1849.*

Before Assistant-Barrister JONES.

EXTRAORDINARY CASE.—*Burges v. Small.*

R. Morris, Esq., Solicitor, from Lurgan, appeared for the plaintiff: the defendant pleaded in person.

The plaintiff in this action, Titus Burges, was an innkeeper in Banbridge, and had sent a colt for castration to defendant, who is a veterinary surgeon, practising in Newry. The colt subsequently died, and plaintiff sought damages from defendant on the plea of neglect, alleging the colt's death to have been caused by the veterinary surgeon sending him home before he was in a fit state to travel, and whilst labouring under strangury.

Hugh M'Keown examined.—Was plaintiff's servant; recollects taking a colt to Mr. Small's establishment in Newry, on the 16th October last, to be cut, worth £20; saw Mr. Small perform the operation, who then left for Dundalk; the colt was then put in a loose box, and he (witness) remained with him; saw Mr. Small again on Tuesday morning; observed the colt unwell first on Thursday morning—he could not stale; told Mr. Kennett so, Mr. Small's assistant, who used no means to relieve him; on Friday told Mr. K. so again; the colt had not staled Thursday or Friday. On Saturday Mr. K. told him that the colt was fit to go home, and gave him a box of ointment to dress the wounds with; there was a large *welt* up the colt's side—thought it was his water; left Newry about twelve o'clock, and reached home about six at night—ten miles; led the colt in hand the whole road. He took a little grass and a bran mash that night—looked ill; left him for the night, and saw him in the morning, when he took a little grass; did not know him to stale from Wednesday. The colt died on Monday night; Mr. Kennett came to Banbridge on Monday night, but the colt died soon after.

Cross-examined by Mr. Small.—Did not insure the colt; received money from master to buy his feeding, and was to wait with him till he was well; Mr. Kennett removed the clams on Tuesday; the colt looked well enough then; if the operation had been performed in Banbridge, thinks you would have come out to take the clams off; don't know about the expense of your visit; don't know that you reside in Armagh, and only visit the Newry and Dundalk establishments weekly. The colt was to be under your special charge; don't know why he was not rather sent to Armagh; don't know master was to get the stable for nothing; don't know why I was to remain in Newry; saw you examine the colt on Thursday morning; you immediately started off to Market-hill; you did not order me to give the colt exercise; did not complain to you then about his not staling; does not know that after such an operation the swelling was the natural consequence of the operation, or that he should have any difficulty, &c.; does not know how often in a day a horse in health should stale; knows he never staled after Wednesday till the day he died; was not with him all the time; does not know the symptoms of strangury; never saw a horse in gripes or colic; the colt lay down sometimes; did not see him roll over on his back, or look round at his belly, nor sweat; could eat his mash; could eat grass; could walk home ten Irish miles, but it took him six hours; if he was quite well, he could do it in two; does not think it impossible that, labouring under strangury for three days, he could walk that distance; made no remark to Mr. Radcliff about riding home in a cart, nor that his

money was done, and that he must go home on Saturday, as plaintiff's son desired him; was not excessively anxious to get home; had plenty of money; the colt was ill on Saturday night; don't know whether it was culpable neglect in Mr. Burges not sending for you that night, or on Sunday morning, or Sunday evening, or on Monday morning, so as to reach you in Newry before you went to Dundalk, although the Monday before he could have the colt sent in time for the operation before eight in the morning.

Plaintiff's son examined.—Remembers the colt being sent to Newry on Monday morning; went down himself on Friday; saw Mr. Kennett, Mr. Small's assistant, who said the colt would be fit to go home on Friday or Saturday; gave the man money, that he might remain with the colt and provide feeding, &c.; the colt did not seem very ill then; did not see him again until Sunday, the day after he came home—he then appeared ill; saw him walking up and down the yard at exercise; he was very weak; does not know if he staled or not; Mr. Small was sent for on Monday morning, by the car, at seven o'clock; his man came out at night, but did nothing for the colt:—he died.

Cross-examined by Mr. Small.—The colt was not ill when I saw him in Newry; he was sent under your special care; knows that you live in Armagh; you wrote to send the colt to Newry. [The letter here produced proved that the colt was sent to Newry, to save plaintiff expense of a visit of defendant to perform the operation; and that the use of a stable was to be given free, where plaintiff might keep and feed the colt himself till he was fit to go home.] Did not order the colt home on Saturday, nor did he get any medicine on Sunday or Monday, although very ill; cannot tell why my father processed you to Hillsborough instead of to Newry, where the transaction occurred; will not swear that it is a vindictive action.

Patrick Hughes examined.—Lives in Banbridge; saw the colt on Monday morning, after he came from Newry; Burges sent for him very early; found the colt greatly swollen, and very ill; considers it was from want of staling; thinks that inflammation caused the stoppage of urine, and that diuretics should have been given to cure it long before; the neglect of that caused the colt's death; has no doubt of it; Mr. Small's assistant came out in the evening, and did nothing but back rake-the colt; he died that night.

Cross-examined by Mr. Small.—Does not know from what the swelling proceeded, if not from the cutting; is a farrier; it might be the natural consequence of the operation; some difficulty in staling might also be natural; don't know that it was frost on Monday, or Sunday, or Saturday; would give diuretic medicine to

make him stale; don't know that diuretics would increase the formation of urine, be adding fuel to the fire, and hasten the animal's death in a case of strangury; inflammation caused the stoppage; won't say how it could be relieved—that's a secret; is sure you know it, perfectly sure of that; did not know that it was impossible; won't honestly confess my ignorance of the matter; cannot swear that if the colt was ill in Newry that he was able to walk home (ten miles); gave the colt no medicine at all, but injections and good advice—of course, that was useful just before he died. [*Great laughter.*]

To the Barrister.—Does not know of any thing that could relieve the horse except diuretics: if that would not cure him, nothing would.

Plaintiff's case here closed, and the barrister was inclined to dismiss, without hearing the defence, but plaintiff's attorney demurred; when Mr. Small proceeded to address the court as follows:—

Defence.

'In the absence of my solicitor, who has not arrived from Newry, it is my misfortune to be obliged to conduct my own defence in this most iniquitous action; and, although it is a saying amongst lawyers, that "a man who pleads his own cause has a fool for a client," I think that I may safely risk the imputation in such a case as this. It is an extraordinary action, and so novel in its nature, that in the records of veterinary jurisprudence in this country, in England, or in Scotland, there is not a single instance of such a cause of action as that which is now before the court.

'It is a case that does not affect me individually; it deeply affects the interests of every member of the profession to which I have the honour to belong. It likewise interests the medical profession; for a surgeon after performing amputation may have the misfortune to lose his patient—many a man has died from the amputation of a limb—when a jealous rival, or a vindictive relative of the deceased man, may trump up a plea of neglect against the unfortunate surgeon, and cast him into gaol on the charge of manslaughter, or it may be murder. Similar is this case before the court. It is not an action for debt, for I owe no man any thing; nor is it an action even to recover damages, for that is impossible: but it is a vindictive action, brought against me, not only to rob my purse, by bringing me here to Hillsborough, thirty miles from my residence, but with a diabolical intention to ruin my professional character and reputation, to rob me of the means whereby I live. The facts of this case, which I will prove in evidence, are the following:—

‘In October last, plaintiff wrote to me at Armagh, where I reside, to say that he had a colt to be castrated, and requesting to know when I would be in Banbridge, and what would be my charge for the operation: my answer was, that I had no immediate business there, that my charge was a guinea for the operation, and that, if I went express, the charge would be £1 additional for the visit; but, if he sent the colt to Newry on a *Monday* or *Thursday*, which are my days of attendance there, I would be happy to operate on him, and give him the use of a stable free, where he might supply his own feeding and attendance; this was intended to save him the expense of livery and also that of my visit to Banbridge. For this act of kindness on my part, witness the ingratitude of the man!—On October 16th, the colt was brought to Newry in charge of plaintiff’s servant; I there performed the operation in the same way as I have done it for the last twenty-five years, and with the same care and attention as if he were my own property: he remained in my stable until the 21st, in charge of plaintiff’s man, not in charge of any of my men, as he would have been, if at livery and under my care. On my return to Newry, on the 19th, I saw the colt, and found the wounds suppurating, which is the indication that danger is over from the effects of the operation: the colt was doing so well, that I ordered him to get exercise if the weather permitted, and that, if he continued to go on well, he might be taken home on Saturday. Although it is never necessary for me to see a horse a second time after castration, yet Mr. Kennett, my pupil, who happened to be in Newry at the time, saw the horse every day that he remained there, and allowed the man in charge of the colt to want for nothing. The colt went home on the sixth day after the operation, as is usual in my practice, without any unfavourable symptom whatever; he was lively, and looking well at the time he left my establishment: if he had been insured by me for £100, my liability was then at an end. The court, perhaps, is not aware of the fact, that castration is considered so dangerous, that it is common to insure horses under the operation, on payment of five per cent. on the value of the animal to the operator [here is the form of docket]; this insurance lasts only one week, when the underwriter’s liability is at an end.—On October 23d, the Monday after the operation, I received in Dundalk the first intimation that the colt was ill; I instantly sent an order to Newry for my assistant to proceed to Banbridge, without a moment’s delay, and do what he could for the colt: he did so, but the colt died that night. If he had not gone on receiving my order, there would be some semblance of neglect, and a faint excuse for this action. I heard nothing more of the matter till after my account was furnished; and in the January fair of Banbridge, when I called for payment,

plaintiff refused, stating that *I had murdered his colt*. I paid little heed to this *vile aspersion*, and considered it only as used *in terrorem* to induce me to forego my claim—a stratagem to shirk payment of a just debt. Now, had Mr. Burges thought at that time that he had any case against me for the recovery of the price of his colt, why did he not proceed for it at the January sessions, or at the March sessions? No, but he waits till now, nine months after the transaction, and brings me here to Hillsborough, when he might have tried it at Newry, where my witnesses live, and with equal convenience to himself. [Plaintiff's attorney here stated that he was the cause of its being brought to Hillsborough, as he could not attend Newry sessions, and exonerated the plaintiff from any vindictive motive in doing so.] At next quarter sessions in Newry I brought a civil bill action for the amount of my bill; it was tried before your worship, and dismissed, on the assumption of neglect. This was most unaccountable to me, but, trusting to the known impartiality of your worship, which is almost proverbial in the county, I felt satisfied that the judgment was according to evidence: that evidence I will now prove to be false, and will shew how unjustly I have been deprived of as honest a debt as was ever due. This is not all:—after that trial a report was in circulation that the court had intimated to plaintiff, that, *instead of my suing him for my account*, he should make me pay the price of the colt. This was tantamount to saying, *bring Small before me if you can, and I will give you a decree*. Sir, I did not believe this report, nor do I think that any representative of her Majesty, on that seat of justice, would be guilty of so gross an impropriety.'

Alexander Kennett, examined by Mr. Small.—Is a veterinary pupil, articled in your establishment; remembers the colt cut in Newry; he was a yearling off; the operation was performed in the usual way, on Monday morning, before you went to Dundalk; he was put in a loose box, in charge of the man that brought him; took the clams off next day; on Wednesday and Thursday dressed him; found the wounds suppurating; not more swelling than usual; you saw him that morning (Thursday), and ordered exercise on Friday; he was exercised twice; on Saturday he looked fresh and well, and ate his mash before he left; told the servant he might take him home; did not insist on his going home; the man was anxious to get away; he might have stayed a month if he chose; have seen you perform the operation very often; it is not usual for you to see a horse after the operation; it is common to insure horses sent to be operated on; the terms are five per cent.; this colt was not insured; thinks it was great kindness to allow the colt to remain in the establishment for nothing; the symptoms of strangury

are those of gripes; this colt never, at any time, had any symptoms of this kind; the man in charge of the colt was three-fourths of his time in Radcliff's shop; a horse in health should stale three times in twenty-four hours; it is impossible that the bladder could contain two, three, or four days' urine; suppose strangury did exist, I know of no means to relieve the colt; do not think it possible that the catheter could be passed, and the urethra inflamed, in so young an animal, without rupturing it. Intelligence of the colt's illness did not arrive in Newry until after you had gone to Dundalk on Monday; forwarded the letter immediately, and, by return, had your order to go to Banbridge; did so; colt died an hour after I arrived, from peritoneal inflammation, not from strangury.

Cross-examined.—Has seen Mr. Small operate on a great number of horses; never knew one to die from the operation before this; was not told on Wednesday that the colt did not stale, nor on Thursday; the man states what is not true, he told me on Friday; he was not well, and did not get up till late in the day; saw the colt looking well and feeding; paid no heed to the man's statement, not the least; though he were dying from strangury could not relieve him, nor any one else; had no control over the man; could certainly advise him, but not command him to stay, if the colt was not fit to go home.

Edward Darlington, a veterinary pupil, articled in Mr. Small's establishment, could shew that it is usual to send a horse home six days after the operation: the very week that plaintiff's colt was operated on, one the same age, the property of Mr. Wynder, of Armagh, was cut, and sent home on the sixth day; he is alive and well; a horse could not have strangury without expressing pain, nor could he exist forty-eight hours under it.

Ebenezer Hewlitt, a veterinary pupil in Mr. Small's establishment, could also prove that it is not usual to see a horse a second time after the operation: saw Mr. Small operate on two horses at Sir John M'Neale's, near Dundalk, on last Monday week, and they were sent a distance of five miles immediately after the operation: they did not die.

James King, a qualified member of the veterinary profession, in practice at Belfast, would prove the absurdity of the allegation of neglect in not relieving strangury in a colt after castration; it is impossible, if it did occur: never heard of such a case; the colt must have died from some other cause: the statement that a colt labouring under strangury travelled ten Irish miles in six hours, and lived two days after, is preposterous.

The Court, after complimenting Mr. Small, said, It is quite

unnecessary to proceed further with the case. The horse was sent to Newry merely for the operation, which seems, by the plaintiff's own witnesses, to have been properly performed. The action absolutely charges Mr. Small with neglect for *not doing that which appears to be impossible*.—I DISMISS ON THE MERITS.

Armagh Sporting Chronicle.

Foreign Extracts.

CONTRIBUTIONS TO THE PATHOLOGICAL ANATOMY OF DOMESTIC BIRDS.

By Dr. E. F. GURLT, Professor at the Royal Veterinary School at Berlin.

[Translated by WM. ERNES, M.R.C.V.S., Dockhead, Bermondsey.]

I. DISEASE OF THE SKIN AND SUBJACENT CELLULAR TISSUE.

MORBID changes in the colour of the skin of birds is easily observed, on account of the transparent epidermis with which the cutis in birds is amply provided, and particularly if the yellow colour prevails, which is caused by an overflow of the bile; or the reddish or blueish, arising from congestion. Melanotic deposits are unknown in birds. The pale colour of the crest in the galinaciæ is a symptom of a variety of disease in fowls.

ERUPTION OF THE SKIN.—Of this affection birds suffer little. We know but of one, the *variola*, to which fowls and pigeons are subject. On the contrary, the subjacent cellular tissue is frequently the seat of considerable swelling. On a hen I found two tumours the size of an egg: they were formed of microscopic cells; their growth seemed to have been slow, and to have much affected the general health of the birds. After feeding on narcotic plants, considerable emphysema of the cellular tissue has been observed.

Dr. Spinola has observed a peculiar morbid state of the web of the feet of a goose in a district where cattle had been much affected by the apthous disease in the feet.

A diseased state of the pyloric glands (glandulæ urapygii) frequently occurs. It consists in the obstruction of the ducts, and is caused by an accumulation of the secretion, a dryness of the skin and feathers, and swelling of the parts.

A faulty or tardy developing of the feathers was observed in a young pigeon which, according to its age, ought to have been full feathered. The feathers were as if sealed in their horny sheath.

FORMATION OF FEATHERS in the abdominal cavity occurs; rarely, in the thorax. They arise out of a peculiarly formed bag or sac, covered with fat; hence they were formerly considered as an abnormal accumulation of fat internally. They more particularly occur in waterfowl, principally in geese and ducks: if detrimental to the health of the bird, it can only occur through mechanical pressure on the viscera. These feathers are generally of stunted growth, seldom more than one or two inches long; commonly they do not protrude through the surrounding fat: sometimes these bags are suspended from a pedicle in the abdominal cavity.

The horny structure is more or less subject to morbid alterations: the spurs in fowls, for instance, by their length or their direction, inconvenience or deprive the bird of his natural weapons of defence; the beaks at times are apt to cross each other, so that the upper part has an opposite direction to the under part, which at all times must be a great inconvenience, often preventing the birds from taking their food.

INSECTS, of the family *philopteridæ*, are very troublesome to poultry, particularly to those which are sickly: however, they do not suck blood, like the *pedunculæ* of the mammalia, but live on the feathers: nevertheless, they cause birds to be very restless, through their quick motions over the skin. Properly speaking, birds are never troubled with lice or fleas. The following genera are found on the different species of the farm-yard poultry:—

On the peacock is found the *goniodes rectangulatus*, *goniodes fallicornis*.

On the turkey, *goniodes stylifer*, *leupeurus polytrapezius*, *menopon strumineum*.

On the guinea fowl, *nicmus numidæ*, *goniodes numidianus*.

On the common fowl, *goniodes hologaster*, *goniodes disimilis*, *leupeurus variabilis*, *menopon pallidum*. These are the worst of all, on account of the rapidity with which they multiply, and their easy transmission to the human subject.

On the goose, *nirmus tadornæ* (not *ornithobius anseris*, as has been incorrectly asserted), *leupeurus jejunos*, *trinoton conspurcatum*.

On ducks, *dolophorus icterodes*, *leupeurus squalidus*.

Two species of mites, *acaridæ*, have been observed, viz. *analges bifidus*, which is found on the pigeon, does not suck blood, but feeds on the feathers; the *dermanyssus avium*, which is found on all birds, but more particularly on the common fowl and the pigeon, are very troublesome to the birds by night, since they suck the blood, on which they subsist: in the daytime they leave the

birds. They are apt to pass on to mammalia, and cause to horses which have been kept near the roost, a disease similar to the mange in that animal.

II. BONES AND MUSCLES.

Diseases of the bones, properly speaking, are of rare occurrence in birds. With the exception of fractures, and these in birds which fly but little, are of no great consequence; but the case is different with those who are much on the wing, inasmuch as the air-cells of the lungs communicate with the hollow tubes of the long bones: by their fracture the air escapes, and it becomes a matter of great difficulty for the bird to support its weight in the atmosphere, though the fractures only interest the leg or thigh, and the wings are intact. With this exception, the consequences and cure are the same as in other animals. A wasting of the bones has been observed in the common fowl when, during the laying season, they have not been allowed free access to chalk or other calcareous substance for any considerable length of time.

THE MUSCLES are sometimes found to be knotty; but the nature and cause of this affection are unknown.

III. DIGESTIVE ORGANS.

The crop of the *gallinacæ*, peacock, turkey, guinea-fowl, common fowl, and pigeon, is subject to over-distention. This may arise from over-feeding, or from the nature of the food, particularly if it consist of grain undergoing fermentation, and germination, causing it to swell. This is more frequently the case with peas, on which pigeons are much fed. The distention is sometimes so great, that it causes a rupture of the parts. In this case the crop may be emptied, and the ends of the wound brought together by stitches; but this is best prevented by making an incision, and treating it in the same way, which gives a better chance of success.

TAUSCH communicates a case of a goose, the œsophagus of which was found distended and crammed with food; the stomach was empty, but a needle was found crosswise in the gullet. This had caused obstruction. The mucous membrane was much swollen and inflamed.

THE PLEURA AND PERITONEUM are subject to the same affections as those of the mammalia, and these have nearly the same termination: dropsy and the formation of false membranes have been observed. Exudative inflammation I have found so extensive in fowls and ducks, that the whole of the viscera have been discovered strongly connected together by adhesions of the plaster

description. In cases of chronic effusion, I have found from two to three pounds of serum in the cavities.

DISEASE OF THE STOMACH has not been observed, with the exception of cases where poison has been taken. On the contrary, inflammation of the bowels has been found in all its variety of forms, and is equally as fatal as in other animals. *At the time the cholera prevailed, a great mortality was observed amongst the poultry in the same districts.* The post-mortem examinations shewed a quantity of brownish-red fluid contained in the intestines, of the same nature as that which had been voided per anum; however, on the last appearance of this fatal epidemic nothing of the kind was observed.

OBSTRUCTION in some part of the intestinal tube has been often observed. Not unfrequently one or the other of the two cæcums, which in ordinary circumstances contain ingesta in a semi-fluid state, were distended to excess by dry food, so that, in size, they exceeded the colon. The rectum is often obstructed by hard and dry excrement.

OF THE DISEASES OF THE LIVER, none but hypertrophy has been observed in birds, which seems to arise from an uncommon but normal increase in the size of the liver, or from a deposition of fat in its tissue. Wilke communicates a case of a hen, the liver of which weighed twenty-five ounces. This hen had not laid any eggs for some time previous, and crowed like a cock. The deposition of fat (steatosis hepatis) occurs not only in geese which are fattened in a small space where they can hardly move, but also in other species of domestic fowls.

GALL STONES have not been found in birds, with one exception, in the casuar of the East Indies, in which a gall-stone of considerable size was found, and which completely obstructed the biliary duct.

INTESTINAL WORMS are generally found in the small intestines of birds: they are more various in aquatic birds. The following species are found:—1, the *calodium tenue* (Dujardin), *ascaris muculosa* (Rud.), *tænia crassala* (R.), in the pigeon; 2, *trichosoma longicolle* (R.), *ascaris vesicularis* (Froel.), *ascaris inflexa*, *ascaris gibbosa*, *monostoma verrucosum* (R.), *distoma dilitatum* (Miram), *distoma chinatum* (Zeit), *tænia infundibuliformis* (Goeze), *tænia malleus* (Goeze), *tænia exilis* (Dujardin), in the common fowls; 3, *ascaris vesicularis* (Froel), in the Guinea-fowl; 4, *ascaris perspicillum* (R.), *ascaris vesicularis* (Froel), in the Turkey; 5, *ascaris vesicularis* (Froel), in the peacock; 6, *trichosoma brevicolle*, *spirotera uncinata*, *strongylus nodicularis* (R.), *strongylus tenuis mehlis*, *ascaris dispar* (Schraak), *echinorrhynchus versicolor* (R.), *monostoma verrucosum* (Zeder), *monostoma attenuatum* (R.), *distoma*

echinatum (Zeder), *distoma oxycephalum tænia lanceolata* (Goeze), *tænia sinosa* (R.), *tænia infundibuliformis* (Goeze), *seligera* (Froel), *fasciata* (R.), *malleus* (Goeze), in the goose; 7, *ascaris inflexa* (Zeder), *asc. crassa* (Deslongchamp), *strongylus tubifex* (Nitzsch), *hystrichis tricolor* (Dujard.), *ecchinorrhynchus versicolor* (R.), *monostoma verrucosum* (Zeder). *distoma lineare* (R.), *dist. oxycephalus* (R.), *echinatum* (Zeder), *ligula sparsa* (R.), *tænia lævis* (Bl.), *trillineata* (Bl.), *infundibuliformis* (Goeze), *sinosa* (R.), *malleus* (Goeze), *sinuosa* (R.), *coronula* (Dujardin), *megalops* (Nitzsch), in the ducks.

IV. ORGANS OF GENERATION.

Wasting of the ovarium is not unfrequent, and sometimes to such a degree as to leave no traces of it. The reverse of this is the production of yolks of an unusual size. There are some specimens in the museum at Berlin five inches long by three inches in diameter. These enlarged yolks are either found in the abdominal cavity, or in the duct: in the latter case they are covered with a thick coat formed by the yolk, but without the least trace of white or eggshell. The formation of the white and the shell is also not at all times regular. The egg, covered only with a thin membrane, is occasionally forced out of the duct. This, most likely, depends upon too strong a vermicular motion of the duct, causing the egg to be laid before its time, and before all its parts are properly formed. On the contrary, if the egg be retained by some cause or other in the duct, we have the formation of a double white and a double shell. If the duct is contracted in some part or other, we find the egg has taken the same shape, so as to adapt itself to the contraction.

THE FORMATION OF HYDATIDS, also, belongs to the diseases of the ovarium. They occur in two ways; either as true hydatids, or the vesiculæ of the ovarium, which are originally filled with fluid, which, in this state, greatly increases in quantity, instead of being, as in the usual course, converted into yolks, of which there seems to be a general suppression. The duct, and even the eggs, are not exempt from parasites. They seem to force their way from the duct into the white of the egg, while in a state of formation round the yolk. These are the *distoma luneatum*, and *distoma ovatum*. Sometimes the *ascaris inflexa* is met with. The *distoma ovatum* has also been found in the *bursa fabricii* in the common fowl.

V. DISEASE OF THE RESPIRATORY ORGANS.

Catarrh, the well-known Pip, is very frequent, particularly amongst fowls. The symptoms are those of the common catarrh. It is not confined to the mucous membrane of the nose only, but

extends to the larynx and pharynx. The alteration of the voice clearly indicates this; but whether it extends to the lungs and air-tubes has not been ascertained. Pneumonia, or inflammation of the substance of the lungs, with the exception of the formation of tubercles, are unknown in birds. Worms are found in the trachea and bronchial tubes; namely, the *syngamus trachealis* and the *distoma lineare*.

VI. DISEASE OF THE NERVOUS SYSTEM AND ORGANS OF SENSATION.

Considerable alterations in the brain and spinal marrow have not been observed in birds. There is, however, no doubt of the instance of nervous affections. The cramp, with which they are frequently affected, as well as epilepsy and the turning sickness, to which fowls are subject, are sufficient to prove it. Their eyes are affected with cataract.

MALFORMATION and MONSTROSITIES, particularly amongst the gallinacæ, are manifold, but of little interest to the veterinary surgeon, except as mere curiosities.

Magazin für die Gesammte Thierheilkunde, Berlin, 1849.

REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—Hon.

THE STUD, FOR PRACTICAL PURPOSES AND PRACTICAL MEN.

By HARRY HIEOVER, author of "The Pocket and the Stud." pp. 205, small 8vo. Longman and Co., London. 1849.

THE present little work forms a sort of sequel, or second volume, to one of a similar nature which came under our notice so lately as November last: the former was directed principally to the consideration of the economy of the stable, and the management of the horse therein; the present is intended to direct our steps in that hazardous investigation—"the search of a horse;" and reckoning the many we have already on the subject, it might, with a great deal of reason, be said, "of such a work there is no need." Our author, however, has answered, or rather has forestalled, this remark, by informing us that he has not pursued the beaten path of

restricting his observations to “merely stating the *perfections* to be sought for in the horse,” but has extended them to the “imperfections,” with the laudable intent of pointing out such as may be “tolerated,” or, in other words, that, *cæteris paribus*, have no call to be raised as objections to purchase.

“Hence, startling as the idea may (to some) appear, this is not a work pretending to put the reader in the way of getting a *perfect* horse, but positively and unequivocally recommending, under certain circumstances and in certain cases, the purchase of an imperfect one.”—*Preface*.

The writer who sets about to define in what excellence of form in horses consists has no easy or enviable task to perform; nor is his labour a little enhanced should he have it in design to teach others what he is persuaded in his own mind he has thoroughly learnt himself. Upon whatever principles he proceeds, whether physical or physiological, as far as *they* conduct him, he cannot, in the science of animal conformation and action, be led astray; but when he hears persons saying that “horses go in all shapes,” and finds himself that he is continually deceived as to the form in which they best can or ought to go, he begins to suspect either the rectitude of his principles or the rectitude of the inquiry he has founded upon them. For his deductions to be valid his premises must be unquestionable; and as correct premises can emanate alone from established facts, in the instance where shape or make seems good enough to warrant good action and bad going results, it shews either that facts are unfounded, or that deductions are untrue, or else that circumstances intervene which operate upon the just and natural conclusions therefrom. One other consideration still there is which may, and frequently does, operate against the legitimate deduction of action from form, and that is, the harmony naturally subsisting in structure and action between the different parts of the locomotive animal apparatus, viewed as a machine, in its united and integral state. No animals are faultless in their make. Every horse has his imperfect as well as his perfect points. But when the perfect ones compensate for the imperfect ones, by counteracting or neutralizing their faulty operation, still is the action good and efficient; so, when the imperfect points spoil or counterbalance

the efficiency of the perfect ones, will the action turn out vicious or bad. The want of perception or consideration of these drawbacks it is which has led to the saying that "horses go well in all shapes"—that "cross-made or ugly shapes sometimes beat handsome or perfect ones in going"—that about "shape and make" there is, as about most other things, "a sort of fashion," and that "every eye has its beauty," &c.

"But independently of the taste or judgment of particular persons about horses—be it mediocre or bad (for this book is not written for good judges)—we must consider the qualifications and disqualifications that would be respectively most desirable or objectionable to the particular party for whom the animal is intended, and by whom it is to be used. This might not be attended with much difficulty, if advising a particular individual; but it must be apparent to every one, that to discuss or point out the advantage or disadvantage of certain perfections and imperfections as relative to particular purchasers would take a volume of no portable size and weight; and then we should not probably effect our object, as the faces of persons do not differ more than do their *tastes*, *ideas*, and *predilections*. All that can, therefore, be done, or, at least, all that I can do, or shall attempt, is to mention, in general terms, the usual consequences or effects of some of the different ailments, habits, action, shape, and qualities of the horse, so far as regards their probable and general influence, as to his utility at such work as he is fitted or intended for."—*Introduction*.

In thus modestly restricting his inquiry, it will be seen that Harry Hieover has had it in design to compose a work rather for the edification of the unlearned than the learned in horse-flesh; and yet, in the face of this frank and candid avowal on his part, we shall take it upon ourselves to affirm that "judges of horses" even may peruse his pages with advantage to their presumed or acquired equine knowledge; and we can with great justice to our author add, that, whatever fresh wrinkles they may pick up in the perusal of the work, they will be sure to feel pleased and gratified with the amusing anecdotal style in which Harry in this, as in his other works, so felicitously ever carries his reader from page to page along with him, without suffering him for a moment to nod or evince even a sign of *ennui*.

The first chapter of the book is devoted to that *vexata questio*,—soundness.

Sound or unsound? “That’s the question!”

“To say the least, I will venture to assert that nine-tenths of the horses now in daily use are more or less unsound. I make no reservation as to the description of horse, his occupation, or what he may be worth. I scarcely ever had, indeed scarcely ever knew, a horse that had been used, and tried sufficiently to prove him a good one, that was in every particular unequivocally sound.” “If my reader pays me the compliment of attaching any weight to what I write, he will probably say that I have put him quite out of heart with respect to buying or hoping to get a sound horse. This is precisely what I wish to do,—that is, so far as getting what he considers a sound one; but not at all as to getting what I consider quite *sound enough*, which is one that *can and does do his work well and pleasantly, bears promise of continuing to do so, and has no outward (or inward?) signs of being (or doing?) otherwise.*”

A practical observation like this knocks down all philosophy. A man may argue this point is good or that point is bad; and that such a horse has a spavin, or a curb, or a windgall; yet, if the horse perform as well with such alleged imperfections as we have reason to believe he would without them, and there arise nothing in them to afford us ground for reckoning on failure from them, the animal is, to all serviceable intents and purposes, *a sound horse*, and by any man who was a “judge” would unhesitatingly be bought or sold as such.

Passing over the four middle chapters of the work as, from their treating of the diseases, morbid imperfections, and habits and propensities of the horse, of comparatively little interest to the veterinarian, at least in relation to their severally constituting unsoundness or objectionableness, we come to the sixth and last chapter, comprising the “Points in the Make and Shape of Horses more or less desirable.” And here we derive a peculiar pleasure from finding our friend Harry has not treated with disdain or silence a “point” to which we ourselves have, from very early years, been devoted with much respect. We mean the physiognomy or craniology of horses:—

“Irish horses, comparatively with English horses, generally have suspicious sinister-looking countenances, contracted and lowering brows; and no man acquainted with animals of both coun-

tries can doubt but that Irish horses have worse tempers than English horses.”—“Tracing back, as we can do, the origin of the thorough-bred horse to a cross with the Arab, whose head is deer-like in formation, we might naturally enough expect to find all race-horses with small heads. This is, however, by no means always, though generally, the case. Eclipse had by no means a beautiful head. Dick Andrews, as good and honest a horse as ever ran, had a very large head. To come to recent racers, that most capital of sires and race-horses, Touchstone, had no deer-like head, though an honest-looking one. Cymba, a late winner of the Oaks, has a head more like collar-work than racing. Mendicant, another Oaks winner, has a large, I may say very large, head. Van Tromp has a really ugly head, added to not the handsomest body in the world. And that capital and truly honest horse, St. Lawrence, has a head shewing less breeding than I should wish in the head of a hunter.”

In reference to the above observations we would beg to remark that, supposing there cannot be any wide misunderstanding concerning what amounts to a *handsome* head, there may be two or more opinions about what constitutes a *good* head. Our experience in such matters has taught us, that horses with small, and what persons in general call “pretty,” heads, frequently prove, like some other pretty-headed things we could mention, “not overburdened with sense;” a reason for which, to our mind, they would be regarded as the lowest in the scale of all heads: whereas, horses with alleged “big” or “plain” heads, but which, when you come to examine them, rather turn out to be *broad* heads, heads of capacity, and capacious in the parts where the sense resides, frequently prove most honest, good-tempered, well-doing, well-serving creatures.

Such is the popular character of “The Stud.” At the same time we can assure our brethren, that though the work, as a book of guidance or instruction, may be beneath their notice, viewing it as a sort of professional novel, they will find amusement enough in it amply to repay its perusal. Harry Hieover has, true sportsman like, skimmed across his country after the manner of a crow, picking up the dainty bits in his way over the green fields, without caring or troubling himself to inquire how they came there, or to what they owe their production. When the veterinarian returns home at eve after his round of labours for the day, instead of

dozing off to sleep in his easy chair, let him seek recreation in beguiling an hour with Harry. Harry will lead him, in imagination, once again through the paths he has trodden so oft in his professional youthhood, reviving many an old and pleasing recollection in his breast, and may—who knows—elicit some novel thought which turned over and over and thoroughly kneaded in the mind, may one day or other turn to useful account.

PROCEEDINGS OF THE COUNCIL OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.

Sitting of September 14, 1849.

Present,—The PRESIDENT, the SECRETARY, the TREASURER, Messrs. JAMES TURNER, PEECH, W. BURLEY, MAYHEW, HENDERSON, ARTHUR CHERRY, and ERNES.

A SPECIAL MEETING called to receive the Report from the Committee appointed to revise the By-Laws.

The minutes being read and signed by the President,

The Secretary stated that the By-Laws Committee having brought their labours to a conclusion, he had to lay before the Council the result, that the whole proposed code had undergone revision; that the proposal of the Committee gave, as they then stood, 89 clauses, under 23 sectional heads.

The clauses were then read seriatim, and the first portions, with very slight alterations, met the views of the Council: one section, relating to the admission of Honorary Members, was struck out as inadmissible, and some few others were amended.

The clause relating to the examinations was read over and discussed at some length; but it was ultimately decided, on a proposition from Mr. Mayhew, that such portion of the proposed By-Laws should stand in *statu quo* for the present, as proceedings which were about to be instituted, in all probability, would materially affect the consideration of them: they were therefore directed to be inserted in the amended report, with a note to that effect.

Mr. Peech moved, “that the report as amended be adopted.”

Mr. James Turner seconded the motion, and said that the Committee deserved great credit for the manner in which they had discharged the labour entrusted to them; and the motion was carried.

Mr. Mayhew moved "that the amended report be printed, in order that the Members of the Council might have the opportunity of carefully considering so important a document before it was too late to correct any errors that might be found to exist."

Mr. Turner concurred in such a motion, and should therefore second it. Carried; and the report, as above, ordered to be printed for the use of the Members of the Council.

Mr. Arthur Cherry said, that had the Council finally decided on the report that evening, he had intended to have brought forward a motion for the purpose of submitting it to competent legal examination, but should now defer it till the proper time.

Mr. Mayhew gave notice of two motions, to be considered at the next sitting.

Mr. Arthur Cherry agreed in the importance of each of these, and at once seconded the notices.

The Meeting then adjourned.

THE VETERINARIAN, OCTOBER 1, 1849.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

THE influenza among horses began to decline with the beginning of September, and through the month has so perceptibly become diminished that for the last week or two we have heard very little about it—at least in the metropolitan districts. Extraordinarily prevalent as it has certainly been, we cannot, for our own part, complain of its fatality, or assert that, looking at its general or most characteristic features, it has appeared to us in any novel or malignant form. Some notions seem to have been flying about, hinting a comparison, in causation at least, between cholera (in the human subject) and influenza (in horses.) It has been said, the attacks of the two diseases have proved synchronous. During the fatal cholera year—1832—influenza prevailed; but then the latter became very general again in 1836, and again in 1841-2, not seasons of cholera. And although the two diseases happen to prevail once again together at the time we are writing, the influenza proved very severe in 1828, a period at which cholera had not as yet visited our shores. And the only cases

wherein influenza has assumed the form of "cholera in horses" which have come under our notice, are the two mentioned by Mr. Cherry in our journal for last month.

To the account which we submitted of the disease in August last, we have but little to add, save a narrative of the employment of a novel remedy which the obstinacy and danger of one of the, in the whole, thirty-six cases that have come under our management seemed at the time to demand. It was a case from the first attended with a good deal of disposition to filling of the legs, which at length ran into rheumatic attacks of the knees and hocks, of a more swollen and painful character than we remembered, with few notable exceptions, to have seen before. At the time these fresh (rheumatic) attacks commenced, the horse—but four years old—was greatly reduced from influenza; and the pain they occasioned him, especially when forced as he was to take exercise in order to keep down the accompanying swellings of the lower limbs, together with the circumstance of his not being able to endure such flexion of the rheumatic joints as would enable him to lie down to take rest, reduced him at length to a degree of emaciation and debility which rendered him not only an object of pity, but likewise, from the failure of every soothing treatment to the joints which humanity could suggest, as well as of every varied routine of treatment constitutionally which art could devise (mercury being the chief remedy), at the same time an object of hopelessness. Pushed to this extremity in the treatment, ether was thought of; but ether, although shewn, as it has been by Mr. Mayhew, to be a sort of specific in certain stages of the influenza, did not seem to us calculated to do much good in a case of this description.

What then was to be done? The horse was losing his appetite, which up to this time had been, notwithstanding his loss of flesh, much better than could have been expected. Added to which, he was every hour becoming, if possible, thinner, and certainly weaker. The perusal of Mr. Murray's case of ophthalmia (in our Number for last month) had determined us some time before, so soon as a fitting case should occur, to give colchicum a trial; and in the present dilemma it occurred to us that, from a recollection of the benefit we had seen derived from it in rheumatism in men, it

might possibly turn out serviceable in similar affections in horses. There was no time to be lost. A pound of the pulv. colchici was immediately sent for, with a particular injunction that it be procured of the best quality. It arrived the day following the thought struck us about it, and two drachms of it, made into a ball with oatmeal and treacle, were given to the patient morning and evening. By care and coaxing of every kind, the animal, too weak and too harassed with pain to continue to take exercise, was supported for seven days through this trial, and the report made was, that, taking his case altogether into consideration, he was better—or rather “less bad”—at the expiration of the week than he was at the beginning. Yet, there had been no visible or decided effect from the colchicum, and therefore it was resolved—“kill or cure”—to double the doses: half ounces being now prescribed to be taken morning and evening. But three of the augmented doses had been taken when the patient grew exceeding dull and heavy in aspect; loathed altogether his food; evidently felt either increased or fresh pain somewhere, it was thought in his abdomen, though he neither pawed nor exhibited any other recognisable symptom of “gripes:” the dung, however, which had hitherto been dropped in balls, was becoming *en masse*, shewing an unequivocal disposition to purgation, which indeed before night came on.

Next day proved the poor patient's worst. He was very unwell indeed, appearing in his flanks as though he were nipped in two; moping in one corner of his box, and refusing even to look at food, though every procurable variety of provender was offered to him; and withal, exhibiting a set-in diarrhœa; while, as though from the consequences of the purgation, the swellings in his joints and legs are growing rapidly less. In his present condition it was evident the purging must, if suffered to continue, inevitably sink him. All water was therefore scrupulously abstained from, and nought but gruel given him as a substitute. Excessive thirst in time brought him to drink the gruel tolerably thick. And in addition was given to him, morning and evening, a quart of thick gruel containing an ounce of the pulv. cretæ com. cum opio, through a bottle by the mouth: a most safe and excellent medicine in cases of diarrhœa or any irritation causing pain and laxness of bowels. By this plan of treatment the animal was both alimentarily and

medicinally supported, and in the end, saved: so satisfactory, indeed, has been the result, that now, three weeks from his dangerous state of depression, he is, freed from his rheumatic disorder, frolicking in his box, calling out every time he sees his groom pass the door after a fresh supply of food.

It may be, and has a right to be said, that this is but a solitary case to shew the efficacy of colchicum. It will, however, considering all its bearings, not be denied to be one of an unusually convincing character, and consequently one concerning which we dare use stronger language than we should be warranted in doing about single cases in general. It bespeaks, in our estimation, other trials of colchicum for rheumatic affections in the horse, and at our hands the medicine certainly will have them. We know how uncertain has proved its virtue as a remedy for rheumatism in man; at least, how varied and conflicting medical reports have made its properties; and the same may, possibly, turn out to be the case from its administration to horses. Still, it demands further trial; and we hope there are those among our readers who will, when opportunity shall offer, aid us in so important an investigation.

We are sorry to see that, in the face of every effort the Council of the Royal College of Veterinary Surgeons have been and continue to be making to bring matters of disagreement between the Royal Veterinary College and themselves to an amicable adjustment, the thorn in the charter which first pricked them so acutely, simply because it deprived them of a privilege which they never ought to have possessed, and which they never but under pressure of circumstances would have possessed, still rankles in the breasts of the Professors of that institution, and from time to time is breaking out in fresh festerings and discharges. One of these eruptions, of more than ordinary extent and import, has been going the round of the newspapers as an advertisement, declaring that "the pupils, after the prescribed course of study has been completed, are subjected to an examination by a board of examiners composed of eminent medical and veterinary practitioners, appointed by the Governors of the Institution, as to their proficiency in the veterinary art." Now, we will put the question to any pupil at present

at the Institution, or who has been studying therein since the establishment of the Board of Examiners of the Royal College of Veterinary Surgeons, whether this paragraph states truth or not? Whether, on the contrary, every pupil who has qualified himself for examination has not appeared before the last-mentioned Board of Examiners? and whether, if there be any such Board of Examiners in existence as is named in the advertisement, any students have presented themselves before it for examination? The pages of *THE VETERINARIAN* will shew what pupils have passed their examinations, and before whom they have passed them; and this, as all the profession knows, is the true and only examination from which pupils can derive certificates to practise the veterinary art as admitted members of the Royal College of Veterinary Surgeons. In our present Number our readers will find a letter addressed to the Editor of "*Bell's Life*," commenting on the advertisement in question, which will further explain its nature and tendency.

MISCELLANEA.

REMARKS ON AN ADVERTISEMENT FROM THE ROYAL VETERINARY COLLEGE.

Mr. Editor,—KNOWING you to be a lover of fair play in every sense of the word has induced me to offer a few remarks on an advertisement which I read in your paper of the 9th inst., as emanating from the Royal Veterinary College at St. Pancras, but from whom, directly, it comes, does not appear, or by whose authority, as there is no signature attached; but a more decided advertisement to endeavour to gain subscribers to an institution I have not seen for some time, or one more calculated to injure the profession of which that institution forms a part, but which ought to have been the head. I have no wish to quarrel with the Professors there; but when they advertise, or sanction an advertisement, such as the one I allude to, I think they ought to have the candour to see that every part of their advertisement is brought before the public in its proper colouring. It is, most probably, not unknown to you that, a few years ago, her most gracious Majesty was pleased to grant to the veterinary profession a charter of incorporation,

under the title of the Royal College of Veterinary Surgeons. To the petition for this boon to the profession were attached the names of Professors Sewell, C. Spooner, and J. B. Simonds. Two of them lent pecuniary assistance, with several others, for the purpose of meeting the expenses consequent upon obtaining it. One of them even begged to have his name introduced with the petition, and the name of a highly respected individual was erased in order to allow of its being introduced. One of the objects and purposes of that charter is that the Council shall have the entire management of the affairs of the body politic and corporate, &c. (as appears on page 8 of the charter), and shall also make orders, rules, and by-laws, &c., and fix and determine on the place and manner of examining students who shall have been educated at the Royal Veterinary College of London or the Veterinary College of Edinburgh, and for regulating the nature and extent of such examination, and for the appointment of persons to examine and determine on the fitness and qualifications of such students, and for the admission or rejection of such students as members of the body politic and corporate. That the members of the body politic and corporate, solely and exclusively of all other persons whomsoever, shall be deemed, and taken, and recognised, to be members of the said profession, or professors of the said art, and shall be individually known and distinguished by the title of veterinary surgeon. Such, Mr. Editor, is one great object of the charter; yet in the face of that very charter (for which the Professors attached their names to the petition) is an advertisement put forth to the public, stating that the pupils, after having attended the prescribed course of study, are subjected to an examination by a board of examiners composed of eminent medical and veterinary practitioners, appointed by the governors of the institution. Seeing such an advertisement, I could not help taking up my pen; because I consider it as calculated to mislead many young men, and cause them to believe that passing an examination within the walls of the College of St. Pancras now will entitle them to the diploma of a veterinary surgeon. Such, I most unhesitatingly say, is not the case. A few years have brought about a change. There is now a regular Board of Examiners appointed by the Council, and those only who pass their examination before that Board can receive the diploma of a veterinary surgeon, or be admitted as members of the body politic, &c. As regards the internal private affairs of the College, the Council, as far as I know, cannot interfere, neither have they any wish to do so. There is one more subject I cannot help alluding to, as it affects the profession, and that is, the paltry way of advertising medicines (prepared at the College at an expense so

much lower than the ordinary prices, that a subscriber may soon save his subscription fee of two guineas). I call it paltry, and beneath those who had a hand in concocting it. They ought to uphold the interests of the practitioners generally who have been at great expense while attending their studies there, and still greater afterwards. It ought naturally to be expected that they would look upon their *alma mater* with respect; but how can they? I will say no more, my sole object being for the good of my profession, and to guard the public against spurious diplomas, and prevent any misconception (as to examinations) in the minds of any young men who may be about to enter the veterinary profession. I must apologise for taking up so much of your time and space in your widely-circulated chronicle; and, trusting that my remarks may have the desired effect, believe me, yours respectfully, — VERITAS.

Bell's Life in London.

CLOVEN-HOOFED HORSE.

THIS very singular animal is but little known: it is an inhabitant of South America, frequenting the steep and rocky mountains of the Andes or Cordilleras. In its disposition it is vicious, wild, and indocile. It is described by Molina to have the size, colour, and general appearance of the ass in every respect, except having smaller ears, wanting the dusky cross which is always to be observed on the shoulders of the ass, and having its hoofs cloven.

NAMES OF GENTLEMEN WHO HAVE OBTAINED THEIR DIPLOMAS.

September 12, 1849.

Mr. Thomas Turner, jun., Croydon
Mr. William Cooper, Berkhamstead
Mr. Thomas Swainson Griffiths, London
Mr. H. W. Cannell, Liverpool
Mr. John Samuel Woods, London
Mr. Joseph Reeve, Outwell.
Mr. William Wallace, jun., Wolverhampton
Mr. Thomas Daniel Willshire, Merthyr Tydvil.

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LAMENESS IN HORSES.

By WILLIAM PERCIVALL, *M.R.C.S. and V.S.*

[Continued from p. 483.]

CAPPED KNEE.

NAME.—IF a comparison be made between the account about to be given of the nature of capped knee and the pathological descriptions already given of capped hock and capped elbow, I think I shall be fully borne out in the appropriateness of a similar appellation for the former. Similarity of structure entails similarity of disease; added to which, in the present case, there exists, as we shall hereafter find, similarity of causation.

DEFINITION.—A capped knee is an uniform swelling of the fore part of the knee, having a soft elastic feel, and evincing, so long as it be recent, more heat than the surrounding skin, though pressure fails to shew that it is any wise or any where painful or even tender.

PATHOLOGY.—When we come to remove the skin from the fore part of the knee, we disclose a layer of dense cellular tissue, covering the extensor tendons for the purpose of protection against the “bangs and blows” to which in this exposed situation they are necessarily obnoxious. Cutting into this tissue, we discover in its middle a sort of spurious bursa, leading upwards into a similar cavity upon the extensor (metacarpi) tendons; in which intervals it is that effused fluid collects whenever the knee becomes the seat of *serous abscess*, or, in other words, becomes “capped;” and this explains the reason why the swelling, as it often is found to do, extends upwards upon the arm. The pathology of capped knee is, therefore, extremely simple. Contusion of the part gives rise to either simply increased vascular action in it or to actual inflammation; its capillary vessels become surcharged with blood, and they relieve themselves by effusion of, commonly, serous fluid, which

collects in the interspaces but now described. At the same time, from the circumstance of the fluid not gravitating, but remaining in one place, it is evident that some agglutination of the cellular tissue around must take place, hence the formation of a complete sac or cavity. And this sac may, from subsequent distention, through absorption induced by the pressure of the fluid, burst into one of the true *bursæ mucosæ* situated underneath it—most likely into that belonging to the tendon of the *extensor metacarpi* muscle. When horses fall down and bruise without breaking their knees, extravasation of blood is apt to follow the accident, and this usually becomes dispersed without being followed by serous abscess. A less violent injury will produce capped knee; it may even arise without any injury at all: like serous abscesses in general, however, when once it has arisen it is by no means disposed to subside, but, on the contrary, very often proves extremely obstinate, and now and then under treatment gives rise to solid in exchange for fluid deposition, inducing consolidation of cellular structures, and thickening of the skin covering them perhaps as well. It may happen, however, that the case may take a totally different turn. Instead of proceeding to terminate in resolution, or permanent consolidation and thickening of parts, fluid may remain effused in a quantity and for so long a time as may, in the end, compel the person in attendance to open the abscess to save its bursting. Perhaps serous fluid or sero-purulent mixture may be let out at first, but afterwards pus becomes secreted, and true abscess presents itself. Or, from the swelling forcing itself against the bursa underneath it, the latter may break, and synovial fluid be discharged. This renders the case protracted, but not dangerous. All will ultimately do well, though, after the healing of the abscess, thickening causing blemish will, for some considerable time, remain.

CAPPED KNEE IS OCCASIONED BY A BLOW OF SOME KIND. Either the horse strikes his knee against the manger or against the log swinging at the end of his halter. Some horses, from a habit of pawing in the stable, one they commonly acquire from impatience manifested at the time of feeding, are very apt to inflict upon themselves such injuries, and, in consequence, to become disfigured, blemished perhaps, for some considerable time, to the no small annoyance, in the case of their being choice or valuable, of their proprietors. Horses at strawyard are frequently in their gambols striking their knees against posts or rails, or any thing that may happen to stand in their way; and since such accidents are little heeded at the time, but left to work their own reduction, every now and then it turns out that in one of them the fluid collects to that extent that no mode of cure remains save that of opening the abscess. In dropsical or œdematous affections of the limbs,

and rheumatic inflammation of the joints, we may frequently observe the knees to be swollen in front to a considerable extent; though, perhaps, we should not call such by the name of "capped knees."

LAMENESS IS NOT A CONSEQUENCE OF CAPPED KNEE. No pain exists to produce it. The cap of the knee, however, may be swollen to that degree that inconvenience or impediment to the flexion of the knee-joint may arise, altering the gait by the peculiarity which it occasions in the lifting and projection of the limb, and so far causing "stiffness," or, if persons will have it so, "lameness." Indeed, it is possible for inflammation from extraordinary causes—such as violent injury, oppressive work, or maltreatment—to be set up in the part, and then, as a matter of course, lameness would result.

TREATMENT might be said to be hardly called for to so trifling an affair as a capped knee; and yet, so long as the enlargement continues, scarcely any thing—unless it be a capped hock—disfigures a horse more. Supposing it be but a casual occurrence, a mere accident of the moment, and there be no probability of any recurrence of the cause which has given rise to it, all that need be said about treatment is—"let the swelling alone, and in time it will subside." As with capped hock so with capped knee, the grand consideration is, the removal of the exciting cause. Should it arise from pawing in the stall, let the horse's fore legs be chained together with fetters of the same kind as were recommended in speaking of capped hock; and should the injury take place in strawyard or paddock, or place of such description, it is most prudent to at once remove the animal.

Severity or repetition of injury may, however, bring before us for treatment a case of tumour, so great an eyesore from its magnitude, that the proprietor is ashamed or unwilling to use the horse with it, notwithstanding the swelling may nowise interfere with action. Now, simple as this case may appear, I would advise the veterinarian not to undertake the treatment of it without warning his employer that capped knee, like capped hock, is apt to prove exceedingly obstinate, tardy and tedious of reduction, and to be the more tiresome in resisting remedy, the more remote its date of origin and chronic its nature.

So long as any heat continued perceptible in the tumour, one would naturally feel disposed to commence with antiphlogistic remedies—a brisk dose of cathartic medicine, combined with the use either of fomentations and poultices, or of evaporating lotions, according to the stage the inflammation was in—notwithstanding the experienced in these matters know but too well that but little benefit is to be expected from such remedies in any case save the

one which is recent, or such a one as has not lost the natural propensity of parts, give them time, to recover of themselves their normal condition. And even in other cases—cases in which this restorative power seems to have expended itself or to have grown dormant, and wherein fresh action seems cogently called for before absorption of the collected fluid can be expected to be brought about, I have always found that blood-letting, either from the shoulder or the toe, with the simultaneous application of a blister upon the swelling, and the combined operation of purgative medicine, has proved more effective than any of the ointments said to promote absorption, such as those of antimony, iodine, mercury, &c.

Now and then, however, it will turn out that, instead of the fresh action excited by the blister producing absorption of the effused fluid, it will give rise not merely to a temporary augmentation—which, indeed, is very commonly the effect of a blister, but—to fresh and permanent enlargement of the tumour, rendering the fluctuation more perceptible than it ever has been, and shewing a disposition, the same as any purulent abscess would, to *point*. At this stage operation becomes inevitable. The tumour may be punctured with a lancet, better held to cut longitudinally than transversely; the serous fluid, often stained with blood, let out; and the case treated the same as any other serous abscess, save that setoning is not advisable here, and that, the sooner the parts can be got to granulate by injections, mild at first and increased in strength afterwards, the better. Sometimes it happens that the sheath of the extensor tendon in front of the knee becomes opened and involved in the abscess, and that synovial discharge is mingled with the serous: should this be suspected prior to lancing, the valvular operation, with scarification, as prescribed for capped hock, might be the preferable mode of procedure. Compresses confined upon the knee by elastic contrivances will be found very useful in promoting adhesion of the scarified surfaces.

LEUCORRHŒA IN A MARE.

By H. J. FITTER, *M.R.C.V.S., Wolverhampton.*

To the Editor of "The Veterinarian."

Dear Sir,—FULLY convinced that you feel gratified by any member of the veterinary profession sending you cases for insertion in your Journal conducive to the advancement of the science, and knowing that your Journal is not only read by the senior branch of the profession but likewise by the junior, to whom illustrations are useful, I send you a case of *leucorrhœa* in a mare.

It is not a disease that is very prevalent in this animal, at least not so much so as *gonorrhœa*.

I am confident that practitioners who have served apprenticeships in large towns, and eventually establish themselves in one, rarely, if ever, see a case of this description. In breeding countries and racing establishments, however, we sometimes meet with them. In any accounts, therefore, of cases of parturition, it is possible this case may prove of some utility.

To distinguish *leucorrhœa* from *gonorrhœa*, it is necessary to attend to the following circumstances. In the latter the discharge is constant, but in small quantities; there is much itching of the pudendum, and swelling of the labia, and I have frequently seen also ulceration to a great extent of these parts. The mare is often at *œstrum*, there seeming to be in these cases an increased desire to venery; whereas, in *leucorrhœa* the discharge is irregular and in considerable quantities, and is neither preceded by nor accompanied with any inflammatory symptom.

I was requested by Mr. Whitehouse, a gentleman living at Codsall, about six miles distant from me, to examine and give my opinion about a bay hackney mare labouring under a profuse discharge from the vagina. The discharge was of a thick yellow shining nature, and was issued to the extent of more than half a gallon per diem. The history of the case, of which Mr. W. kindly gave me the particulars, is as follows:—This well-bred mare was put to the horse called the “Libel,” own brother to the celebrated entire horse “Touchstone,” and about six weeks after exhibited discharge *per vaginam*. I know of several mares that were put to the same horse without having experienced any such contamination. The discharge collected within the *pudendum*, in the *fossa navicularis*, and used to come away in gushes from the parts. The sides of the vulva were agglutinated by the discharge forming incrustations around its orifice. The mucous membrane did not put on any appearance of inflammatory action, but seemed rather blanched. The discharge flowed in that abundance that it ran down the thighs. Could the discharge proceed from immoderate coition, or was it the effect of the large convexity of the horse not properly adapting itself to the concavity of the mare, beautifully as Nature has fitted them for each other? The organs of generation in this mare are evidently very small, and there is not a doubt but the force applied was the cause of setting up irritation in the membrane lining them.

The mare was poor and emaciated; had a staring coat, and a large pendulous abdomen; though a fine frame, and was in estimation previous to her becoming diseased. The gentleman who kept the entire horse gave Mr. W. very little hopes of her recovery, he having had one die from the same cause.

When I saw the mare she was low in condition, though she possessed a ravenous appetite, eating even the litter from beneath her feet. My mode of treatment was as follows:—

R	Alöes Barb.....	3v
	Hyd. chlorid.	3ss
	Zingib.....	3ss
	Mucilag.	q. s.

When I saw her again, I injected into the vagina with the patent enema pipe,

Zinci sulphat.	3j
Aquæ	Oj

In the course of three days I administered a ball composed of

R	Ferri sulphat.....	3ij
	Zingib.	3ss
	Gentian.....	3iss
	Pulv. conii	3iss
	Mass. com	3iss
	Copaibæ	q. s.

I left several more balls to be given, one daily, until I next called.

I continued the same treatment, injecting the zinci sulphas, but in greater quantities, during two months. She was at the expiration of that time perfectly well, and so now remains. I continued the injection much longer than the administration of any thing internally. The discharge, previous to the mare becoming quite convalescent, became of a white pellucid colour; then gradually disappeared.

Snow Hill, Wolverhampton.

* * * This is an instructive case. We shall at all times be happy to hear from Mr. Fitter.—ED. VET.

AZOTISED AND NON-AZOTISED FOOD;

ITS INFLUENCE ON THE FORMATION OF THE CLOT AND SERUM OF THE BLOOD IN ANIMALS: NON-NITROGENISED SUBSTANCES TEND TO THE PROCREATION OF SERUM, NITROGENISED TO THE GENERATION OF THE CLOT.

By ROBERT READ, *M.R.C.V.S., Crediton, Devon.*

Sir,—SHOULD you deem this little essay right in principle, and so consider it worthy a place in your Journal, you will please to insert it; but if unworthy, cast it aside. What I have asserted is the result of practical experiment. Should there be any thing new in the results, it may be the means among physiologists of opening

some fresh theory. I do not believe such results have been before noticed by any individual. In thus giving a brief outline of my paper, I shall leave it in the hands of more able observers than myself either to confirm or to disprove it.

Yours obediently.

To Editor of "The Veterinarian,"
September 1849.

IN prosecuting, for some years past, experiments on the blood of animals—the horse, ox, sheep, and dog—and recording the different states of the sanguineous fluid detracted from them under the influence of divers kinds of food, results, both significant and conclusive, have shewn that the various descriptions of food, specified by Liebig as the elements of respiration and nutrition, are, in fact, the exciters of two different conditional states of the blood. Food wanting in nitrogen or azote produces an excess of serum; whilst substances abounding in nitrogen induce an increase of crassamentum or clot. These conditions being co-existent in the animal economy with the quantitative and qualitative supply of nutriment, I have arranged them in the following order:—

PRODUCERS OF SERUM.

PRODUCERS OF CLOT.

(Elements of Respiration.—*Liebig*.)

(Elements of Nutrition.—*Liebig*.)

Saccharine matter

Albumen in its various forms

Starch

Vegetable fibrine

Gum

Caseine

Wheat

Beans

Barley, new

Peas

Turnips

Oats

Carrots

Barley, old

Pectine

&c. &c.

Bassorine,

&c. &c.

I was first led to institute inquiries into and examine the state of the blood in different animals, during the progress of fattening on different kinds of fodder, from noticing an undue proportion of serum, when compared with the clot, in blood taken from the fattening animals. And the prosecution of such observations had demonstrated that, in proportion as animals are supplied with food of a non-nitrogenised quality, so in bulk does the serum of the blood increase, and the clot become less developed. On the other hand, as animals are supplied with nitrogenised material, so in proportion does the serum diminish, and the clot become more abundant. These two conditional constitutions of the blood may be alternately induced in the same animal, by at one time giving food containing or having an excess of azotised, at another of non-azotised matter. An animal is raised to the highest pitch of muscular condition, as the result of

being fed on an abundant supply of azotised food; for if he be bled, the clot is found in excess. Reverse the diet to non-azotised food, and the muscular development is soon lost, and adipose deposit takes its place. And if blood be now taken, the serum has the balance in its favour. Having thus far demonstrated that these two conditions of blood are relatively essential to the formation of fat and muscle, may we not physiologically infer that fat is a secretion from the serum of the blood, and its formation the result of atomic arrangement in the cells of the adipose tissue? It is also ascertained as a fact, that an excess of food abounding in non-azotised constituents cannot go to form muscle or any other part of the machine in which red globules are essential. On this principle we may account for the smallness of the lungs and livers, and the diminutive muscular development, in animals fed on food containing little nitrogen; for I can, and not problematically, assert, that it is not necessary animals should have small lungs to make fat; but that every organ in which the red globules play an active part become less in formation, since the serum of the blood exists above its natural standard. This theory does not harmonize with Liebig's, as to the manner in which fat is formed. I have briefly laid this subject before the readers of *THE VETERINARIAN*, in the hope that it will be the means of discovering whether these two conditions of the blood have been observed or noticed as to their productive results in the animal creation by other physiologists. Liebig and Playfair maintained, that in proportion as an animal grew fat, so in like proportion did the organs connected with nutrition diminish in size.

The theory I have advanced goes to prove that the lungs and liver, and the muscular growth, become less in the animal as the serum of the blood becomes more and the clot less abundant. Supposing, therefore, that all non-azotised matters go to the formation of fat which is not consumed in the production of animal heat, my argument is, that the fat in animals resulting from being fed on starchy matters induces an excess of serum, and thus contributes to the formation of fat, and not to the mechanical theory of the "unburnt carbon."

ON SHOEING HORSES.

By SHOEING SMITHS.

(Third Article.)

Now, boy, let us hear more of the Caliphs.

Ned will not let me have the MS.; he says, if he should want a job, masters will not give him employment, for aiding and abetting in leading your minds astray. Is that true, Ned?—No; there

is not a word of truth in it; but you see how the cat has jumped. You and the writer of the Caliphs have, it appears, been marching with Caliph Gloag to Coventry. The good Caliph has been unintentionally leading you "ragamuffins where you will get peppered." As to the writer himself, he is like the picture in the Royal Exhibition last year. The best, a butcher-boy teaching that jaws can open and shut, while an urchin is trying to fillip a cherry (which the critic described as being inimitably done) into the said space; but missing often, only bespatters with juice a variety of face, at best, perhaps, not very "divine."

I think you are right, Ned; we shall be worse thought of than the Royal Chartists are by certain professors. Go on we must; this is the age of progress; we cannot be made bondages of by masters. The smiths and wheelwrights stand their ground in the rural districts. Even when the blacksmith committed a crime that sentenced him to death, the villagers solicited to be allowed to hang two weavers instead. Goldsmith wrote.

No more the smith his dusky brow shall clear,
Relax his ponderous strength, and lean to hear;

but I say he shall. I shall go by the up-train and take those that like to go with me; those that like may go by the *down*-train, leather aprons, &c.

That's right, Jack; we thought our *practices* would not, at all events, *be made into principles*. But in No. 261 of THE VETERINARIAN, pp. 502, sixth line from bottom, to 503, this is done. How, where, and at what times, are we to attend said teacher? We learn this during our apprenticeship, but not the *principles*; we know not why we do so and so, though masters know, who never practised what is stated. Of course, principles and practice are two very different things, that can, and do, separately exist: the former from the functions of the foot; while the latter are frequently at variance with the former, instead of always being *founded* upon them, as shewn by previous quotations from the great Caliph's lectures; and I am willing to stand or fall by the issue. I shall quote the blacksmith's sign *fairly*, "agreeable to the laws of nature," and admitting of no deviation. The perfection of this art, like others, would, of necessity, be that which came nearest to nature; or, strictly speaking, it would not be art. It so happens I am not in a position contrary to that stated at pp. 571, 572, read it any how you like. It remains to be proved yet, which is the road of improvement. I had the moral courage, when younger by twenty-five years, to tell the great Caliph that he broke down; when, forgetting his own definition of a principle, he attempted to make "the crust being in contact with the shoe, and the sole not, principles;" and then eat his own words, by say-

ing "the sole could take bearing on the shoe at the toe, because it was not exposed to sensible parts." The principle, then, existed in the deviation; namely, the horse's foot has a *primary* and *secondary* bearing; the first is not opposite to sensible parts, the second is. It is no matter what variety the foot may be of, or the changes it has undergone, to make it "a study of itself." I do not dispute that, or the necessity of modifications in practice; but the *principles founded* on the *physiology* are not thereby *invalidated*. I merely followed the great Caliph's deviation, because it was consonant to the physiology. I left others (though, perhaps, not undisturbedly,) to follow the so-called principles made out of practices; and they have not advanced one step towards improvement in the practices of the art: and this is acknowledged by the writer in p. 500, line 18.

How is it that intelligent farriers, with all their practical knowledge, as stated, have not advanced on the practices of their ancestors? And is this a good and sufficient reason for still going on teaching in the same way? I returned to "old practices and opinions," I believe, when the writer "was yet a boy;" and if he had looked below the sign he would have found these words:—"In England, in the metropolis and large towns, where higher prices are paid for shoeing, where the workmen are most skilful, where horses are what is called neater shod, where most substance of hoof is removed, agreeable to the supposed principles of shoeing, there are more lame horses than in the country, where the workmanship is rougher. I would rather have our horses shod in the ordinary way by the latter than the former, to go over the stones of the metropolis, where percussion is most likely to happen." (VETERINARIAN, vol. x, No. 112, April 1837, N.S. No. 52.) Here "this simple fact of daily occurrence" is sufficiently alluded to. I could go on in this controversial manner to very great length, but to what purpose? The question was put to me, How is it that Mr. W. Percivall, who has written so well upon veterinary subjects, yet writes little about shoeing horses? My answer was, because he is a wise man. How do you make out that? In this way: no sooner does a person, like Mr. Gloag, for instance, unpretendingly write a pamphlet, let the remarks be ever so practical, but up starts some one and writes like *Punch*,

"For the object of all your attempts is to mend us,
While such as we are we desire to remain.
We spurn with contempt the instruction ye send us:
Insidiously meant our *own plans* we retain.
To the best plan you give us we bear most aversion,
Since preserving and springing heels it promotes.
We abhorre your *conversion* far more than *concussion*,
As checking more strongly the cutting of throats."

Less number of horses were lame from shoeing formerly than since the establishment of the Veterinary College, the Professor of which has received sufficient fees for cutting the electric wires to be quite evidence enough, and all in consequence of our not effectually preventing concussion with the increased rate of travelling; therefore, why any man should, with pig-headed obstinacy, continue to resist the necessary change in construction of the horse-shoe, can only be accounted for by some notion on his part of its affecting his interests. It is of no use mincing the matter now. The interests of the public are not considered by such individuals, and they deserve no consideration from me, as I am now the more determined to write up to the subject, however unpleasant or unpalatable it may be to some. It is difficult, nay, impossible, to conceive any other reasons for opposition to changes in the horse-shoe than those we have stated.

Let any man go from England, as I have done for many years, and then return, time after time, and find that during the interval not the least advancement has been made in this branch of the profession, and what would be his thoughts on this subject? Put all theorists aside. Answer the question fairly; because it is merely looked upon as a handicraft, and some are interested and determined to persevere to keep it so if they can; but we shall see: nay, as to the notable scheme of a class-room to convert the veterinary student who has to attain knowledge of the higher branches of his profession, notwithstanding the utility of the lower ones is in some measure to destroy all his tact for the former, to render him a mere mechanic, and have we no experience of life, how seldom does a mere mechanic emerge from his class. It is true that in the veterinary profession this has happened as in other trades; the farrier has frequently become veterinary surgeon; and we are old enough to see the old farrier now write up, "and Son, Veterinary Surgeon." This is as it should be; not for any body to go and be groomed at the Veterinary College, and in Mr. ———'s class-room, upon shoeing, and then go before the Royal College of Veterinary Surgeons and ask for a diploma. Read the editorial remarks, page 535, and the advertisement on the cover for September, and then let the person about to enter the profession consider, if he cannot bring his mind to do all this, he should never enter as a student at the College, which does not afford the opportunity of practice here mentioned, more than ever necessary now, from the competition by free trade in cattle.

Again, the College forge affords no opportunity for practice. I served my time; many others have their's. It is useless for veterinary colleges to multiply veterinary students, who have afterwards to seek for practice in various branches of the art.

This is not the story of the Caliphs. No; this has been drawn from us. Yes, and you must take care you are not quartered too. I do not doubt it, since before now I have had bets which could quickest cut off a donkey's head in the dissecting room. I mean "a dead 'un."

There is a manifest unfairness in any one attempting to write on a subject about which he cannot know any thing but that which he may have seen in a Review. The work to which the writer alludes never having been published, I have never seen the remarks made on it. I had perfect confidence in the fairness of the Editor, and, in all probability, should not have written another line on shoeing horses, if this gentleman had not kindly sent me a Number with Mr. Gloag's experiments. I know who have copies of the work. I will inquire if the writer has ever seen it; and if so, I will retract what I have written above. I should be very sorry to "do infinite mischief to the advancement of our art," or in any way "tend to make that which is clear and easy of comprehension obscure and complicated; lead astray the mind, and reduce the beautiful simplicity of nature's works to the level of a mere machine, the work of man's hands." Oh! oh! I must drop you rogues; here is a gentleman suspects you are not "fairies;" that you cannot shoe a horse; and if you had, you would be ashamed of it. Nonsense; I have been in many parts of the world; the veterinary surgeon is considered as the farrier or horse-doctor everywhere, whether it is known he can shoe or not; but as to his being brought up a fireman, I do say, and will prove in another paper, that this is quite unnecessary. The education of the veterinary student is a matter of great importance to himself and the public. He should himself know what he is going after, and not be led astray by the glozing advertisements of rival veterinary schools.

If it is really necessary to have a class-room to teach students intended for the veterinary department of the army, how stands the case? What is the number of regiments at home? Few. More veterinary surgeons now go to India, where the practices of shoeing stated by the writer are not followed. Can he teach these students the practice there? No; they must depend upon their knowledge of the physiology of the foot, or some person who has been there must teach them. So we must both go at it, it seems; he with the bellows and tongs, I without; and parties differently situated may place confidence in what each of us say. But there is no necessity for him to hang a sign-board round my neck that did not belong to me, because I had, and very properly too, exposed the humbug signs about town in 1837. I leave it for those concerned to reply to what is said about "duties neglected."

The curiosity of the subject is, the blowing of hot and cold from the same bellows: pages 501, "ignorant shoeing smith;" 502, "intelligent farrier."

What do you say, Larry? I just want to know what the gentleman means; if you say that the latter does not qualify the former, only let me catch him in Cork.

You have told him you could, years gone by, "discriminate between the well-fitted shoe and mere well-finished shoe;" but why did you hit us town firemen so hard in replying to him? Because you richly deserved it. This fine shoeing of yours, mates, has for many, many years lamed more horses in England than the pace.

But, you see, we have been "at a premium," and you—look! look again!—have been at a discount!

Out, you rogues; I'll drop you before I get to the terminus; I find you are my rivals, powerful opponents.

"No, Jack, good Jack, sweet Jack," don't break our necks on the rail.

Get out, I say; you shall not be "akin to the better man." You understand you have the *sine quâ non*. You have the "capability of marching;" go, or I'll send my foot where your apron is not.

No, Jack; what did the great Caliph do when you said he was suiting his principles to the state of the trade?

Do? He sent me the offer of an appointment.

Why should he have been offended; he could not help you while you persisted in shoeing with the long shoe having bearing on the heels when the foot was raised from the ground.

Budge: "the authorities are keenly alive." We don't know who they are. Nor I; but I will give you a specimen of the liveliness of some:—In 1836, I happened to have a brother in a certain office, and he informed me that Caliph C. Percivall had been there, and asked his governor to order the contract horseshoe boxes to be opened, which was done—some shoes taken out by the shoeing smiths, who tried the sizes on the troop horses. The shoeing smiths said they could alter these; but where did the heel nail-holes of the larger shoes appear on the smaller horses' feet, &c., and could these be altered and fitted without a forge cart, or Cherry's patent forge? The shoes were only of four sizes. No. 1 being 6½ inches diameter; No. 2, 6 inches; No. 3, 5½ inches; No. 4, 5 inches: the intermediate sizes were, in most of the boxes, not to be found. Now I do not know what the Caliph was after; but as he had been in India, I can guess, as twenty-five years ago I alluded to this when I wrote, "This system affords immediate

facility of supplying the sizes of shoes and nails, an object of convenience at all times, and of great importance to an army on foreign service." I had been anticipated in this part of the subject by Mr. Goodwin, in carrying out his excellent invention of casting shoes. He had twenty-seven sizes, which ran close between 5 inches and 7 inches diameter; the horses' shoes, of $\frac{1}{8}$ th of an inch difference in size, are thirty-two in number; therefore, only four shoes could be found in the boxes to fit, twenty-eight horses had to be fitted. The Caliph, I make no doubt, from his previous knowledge of practically shoeing cavalry in India, felt it his duty (as I should have done) to inquire into the sizes, in case the boxes should be sent with him on service in Europe, where, without a forge cart, he might be obliged to set to in the Indian manner, and fit out. He knew that troop horses had numbers, and if he only had the blank forms near the horses' sizes, he would be able to accomplish what he wanted, i. e. shoe a whole troop without a forge cart.

Tell us, Jack, how to do this. What, not gone, you rascals! You cried out Ca, Ca, Ca, Caliban,

I have got a new master,
Get a new man;

And here you are still. I will not.

Pray, go on with the Caliphs, then.

I will not do that either. You have been "doctoring;" *ergo*, you are "thus clever in what can be seen," you "must be clever in whatever else relates to a horse."

I have been abroad for many years, where, if I had asked for ether to use, I might have asked in vain, as I did once for blistering ointment, when the contractor told me he would write to a friend 500 miles off to catch some flies. Well; Mr. Mayhew recommends ether. Am I to place confidence in this gentleman, or am I to whistle, or say with John Follit,

Are you friend, are you foe?
Come, quick, let us know.

Are you either or neither, pray, ether? What would this gentleman think of me? I have the test of Caliph Gloag's dissection and experiments in support of what I advanced for the improvement of this branch of the art, and an attempt is made to whistle me down the wind, like Jekyl, who put the Board of Ordnance to £45 expenses for five lame horses, and sent them back worse than they went to him. I have not caused any of you expense. Vanish, all of you, but the boy. I may make something of him; he, at least, shall shoe horses as I wish to have them shod. Com-

manding officer, riding master, farrier major, the groom or jockey, interfering with shoeing is quite beside the question of the merits of veterinary surgeons, whether in the army or out of it, to direct the shoeing of horses. The bulk of veterinary surgeons should be very much obliged to the writer, and particularly the former, whose ignorance and idleness it appears is bliss, notwithstanding the more than angel visits of the complaints on this subject. Now, sir, where are you, boy? Here, sir. I am going to try your capability of marching—no whim or fashion ought to be tolerated; it is taught as a science. Now, do the goose step. What is that, sir? Hold up one foot till I tell you to put it down, like a lame horse going to the knackers. March! I can tell with tolerable correctness at a glance. I may look in vain for the spirit of the requirement here; I must send you to Germany by and by. I'll make a journeyman of you on the keenly alive authorities, whoever they may be, for I do not (like another vet. the other day) care to say, "attempts have been made to make every dragoon capable of shoeing his own horse: this has failed." What a precious regiment this must have been! neither commanding officer, riding master, or veterinary surgeon, could teach how to nail on a shoe! What an anomaly? It could not have been a crack regiment, with half a dozen young officers, with each some thousands a-year; not one groom or jockey, drag or racer, or the man that nailed the shoe to the fore-mast of their yacht—what an unfortunate regiment! Read this, you veterinary professors; your students merely took off the shoe, pared the foot, and nailed on the shoe again in the old nail-holes, cunning rogues. How Larry Devine would have laughed, and right hearty too, to be told that "the foot is naturally composed of the same organization in every individual of the genus equina." Horn is horn, I know; but I have yet to learn that which is stated of it in the foot of the horse. Then, as to the horseshoe, where are the public to be supplied with this "happy mean, in which utility consists," in every city, town, and village, of the kingdom? Can the workmen from the blacksmiths' shops all over the kingdom be brought to be taught in a proper class-room? It cannot be insisted on even with the veterinary student. A young man goes to the Veterinary College or to Edinburgh to learn the higher branches of his profession. In the name of fortune—for it would require one—are parents to pay for his frittering away his time in acquiring a mere handicraft, which, unless he be a very stupid fellow, and without any tact, he can acquire at any time it may be convenient? The proposal is preposterous.

The parents of individuals sent to the Veterinary College have, in general, but slender means; a young man's residence, &c., in town for any period is heavy enough to make the student reflect

upon the necessity of learning something better worth knowing than being a mere blacksmith. I may be wrong: I think I am not.

The German gazelle (apprentice) serves three years to a blacksmith, travels three more, like other trades, as a journeyman. The gazelles, or, as they sometimes call themselves, students, may be seen in the road; he starts, his mates primed with snaps and singing some song about the frou and wine—

“ Here I'll take my lowly stand,
And live in German vaterland;
I'll kiss my maiden, fair and fine,
And drink the best of Rhenish wine.”

Meet him in a distant part of the country some time afterwards, his boots worn out, his clothes older and torn, his long hair, a beard, he looks much more like a lion; he has not been able to get a job. See him at night in the inn pull out the farthings he obtained by voluntary charity; he sits down with the host, partakes what is going, if his means allow of it—humble fare, most likely, or only black rye bread and a cup of coffee. Bed he will not get if he is in the state described, for fear of his leaving part of his family in it; but he is shewn the hay-loft, which, under the same roof, and there being no chimney, the smoke has made warm and comfortable. True, he may get a bottle of poor wine on Sunday; and I have been surprised at the small sum upon which, I have been told, they existed in different parts of the country. I hope you will not send me there, Sir. I shall, unless these squabbles between Professors and the Royal College of Veterinary Surgeons can be settled to the advantage of the student and the public. After you are two-and-twenty you will have to serve two years as a soldier, or pay 500 marks; then you will be free to set up as a master. You will belong to the club, and, if you are in distress, you will obtain relief: but, mind, you will only be a blacksmith. If you wish to be a (theirartz) veterinary surgeon, you must go to the veterinary schools. In some states you can pay for your freedom to practise, and, after all, you may find a Mr. Gloag works (a smart chap) in the neighbourhood, with his free too.

The boors in the stershaft of Pinneberg took a fancy to a chap of this sort, and His Excellency gave this man his free, because they said they preferred him to the Regulars. So, boy, you see you will have difficulties wherever you go in this struggle of competition. Attend to the Editor of *THE VETERINARIAN*: “ nothing can do this, save an improved foundation to work upon: for such knowledge, an abundant field for observation and practice, with ample time for carrying them out,” applies to every branch of the veterinary art.

Bill, Ned, and Larrey, beg pardon, and hope you will go on with the story of the Caliphs*. I cannot, boy, for another reason; but I will consider about it.

FUNGIOUS EXCRESCENCE WITHIN THE DUODENUM OF A COW.

By THOMAS SHENTON, V.S.

To the Editor of "The Veterinarian."

Sir,—Thinking an account of the following case may not be uninteresting to some of the numerous readers of your excellent Journal, I am induced to send it for insertion

Yours respectfully.

ON the 26th of August last, I was requested by a farmer, residing a few miles distant from this place, to see a sturk, which he stated had not been looking well for some time, and within the last few days had been materially worse. Upon visiting my patient, which was a very fine-bred animal, I found her standing in one corner of her box, with her legs altogether, back arched, and rumen tympanitic. At intervals she appeared uneasy, endeavouring, but without effect, to expel something from her rectum. Pulse ranging between 50 and 60; breathing tranquil.

I examined her rectum, but found nothing except a little coagulated blood, on the removal of which she appeared easier. I was informed she had had no evacuation since the preceding evening.

Sent ol. lini Oij, liq. ammoniæ ℥j, with orders to give nothing but oatmeal gruel until I should see her again in the morning.

27th.—On visiting her to-day, they told me she had evinced no symptoms of uneasiness since I saw her last, and that nothing had

* As the writer understands several Caliphs have published on the foot during his long pilgrimage, and about which he does not know any thing, they must not be offended: he does not lend on usury, it being forbidden by the Koran; therefore, if they will send their pamphlets, directed (post free) for the Hadji, care of Messrs. Compton and Ritchie, Cloth Fair, he will have much pleasure in returning them a copy of his plates on the foot and shoeing; and he does not limit this exchange to those on the foot only, as his veterinary library has nearly all left his portmanteau. He wishes to bear in mind that

"Many a shaft at random sent,
Finds mark that archer little meant."

passed her bowels. Rumen still distended. Gave magnesiae sulph. $\mathfrak{Z}x$, zingiberis rad. $\mathfrak{Z}j$, carui seminum $\mathfrak{Z}ij$, with directions to throw up an injection of warm water every two hours, and to let her have nothing but gruel until her bowels responded.

28th.—This morning my employer met me, telling me it was all over with the cow, as she had begun to purge, and part of her bowels had come away. On examining the fæces, of which there was an abundance, I found three or four lumps of coagulated blood as large as a marble, and a quantity of inspissated mucus. The swelling had gone down. Pulse 60, and weak. Her appetite was good, and she looked very cheerful. Sent two powders, each containing gentian. $\mathfrak{Z}js$, zingib. $\mathfrak{Z}j$, sulphur $\mathfrak{Z}ij$, one to be given immediately, the other on the following day. To be allowed a little hay, but no green food.

30th.—I saw her again: the fæces were of their natural consistence, and only occasionally streaked with blood; still she stood in the same position as when I first saw her. Her rumen was again filled with gas, and she appeared to have but little appetite.

I now told the owner I had but slight hope of her recovery, as I thought there was either some stricture in the œsophagus, or else some foreign body in the stomach. He, however, expressed a wish that I should try remedy a little further; so I gently passed a probang, which did not appear to meet with any obstruction, when at length a great quantity of imprisoned gas escaped. Gave chloride of lime $\mathfrak{Z}ij$, ginger $\mathfrak{Z}j$, caraway seeds $\mathfrak{Z}j$, in some warm water, and directed the same dose to be given in the evening, if she was at all swollen.

31st.—This morning a messenger came to tell me that the sturk had begun to swell again almost immediately after I left her, and that she had the preceding evening, after eating a little mash, ejected a considerable quantity of it again. This strengthened my previous suspicion that there was some foreign body in the stomach. Not being able to go up to see her, I told him, as it was a fine day, he might bring her gently down to my place, which he accordingly did. She looked very cheerful on arriving here, but kicked at her abdomen occasionally, and was very much swollen, although her bowels were regular. Her pulse had got up to 70, and was full; so I bled her to the amount of three quarts, blistered the whole surface of her abdomen, and gave spt. ammon. arom. $\mathfrak{Z}ij$, tinct. opii $\mathfrak{Z}ss$, ol. lini 1 lb.

Sept. 1st.—She appeared very much better. The blister had acted well, and the swelling had nearly gone down. From this date till the 6th she gradually improved, her different functions performing regularly. I now began to congratulate myself, thinking there was no doubt but my patient would rally: the hope proved

vain, however; for, on the 7th, all the unfavourable symptoms returned, and in a more aggravated form. After taking solid food of any kind, she was very uneasy until it was rejected. It now became a mere matter of experiment, and various means were adopted to relieve her. But all my efforts were unavailing, for on the 12th, late at night, she died.

Post-mortem examination.—The œsophagus was first minutely examined, but no traces of disease could be found. The rumen and its contents next came under notice, as did also the other stomachs; but, with the exception of a slight inflammatory blush pervading the lining membrane of the fourth stomach, nothing of an unhealthy appearance was observed. Upon taking hold, however, of the duodenum, about four inches distant from the stomach, I could distinctly feel something hard, which yielded slightly to pressure. On cutting it open, I found it to be a mass of *fungus*, of a livid hue, which appeared to have sprung from the muscular coat of the bowel. The mucous coat all round the part appeared to have sloughed away, and, where it was wanting, the surface presented a rough granular aspect, which bled on rubbing my finger lightly over it. The obstruction offered by the presence of this tumour to the passage of the food must have been great, as there was but just room enough left to pass my finger. The whole of the small intestines were inflamed, but all the other viscera quite healthy.

Great Hucklow,
October 6th, 1849.

FRACTURED TIBIA IN A COW MENDED.

By Mr. YOUNGHUSBAND, V.S., Greystoke, Cumberland.

June 30th, 1849.—WAS called upon by an employer of mine, who said he had a cow that had got sadly lamed by another cow leaping upon her, she at the time being in heat, or, in other words, “a bulling.” I went with him to the place—a solitary building upon a distant part of the farm—and found the animal lame in the off hind limb, upon which she was supporting a little weight, though evidently suffering great pain. I now examined the limb to the best of my judgment, but, unluckily for me, could find no focus wherefrom to derive my opinion; so, possibly like others before me, was under the necessity of suspending my judgment for a short time. On taking my leave, however, I told the owner that, before we resorted to any means for her relief, the case not appearing extremely urgent, we would wait awhile, and see if any

thing occurred by which we would be better able to judge of the case. And so I left.

July 1st.—Received a message to visit my patient again, as the servant-man had been viewing her that morning, and had found out (by what means I do not know) that her hock was “out of joint”—so I just made the short reply, “A clever chap that man of yours, no doubt! Nevertheless, I will come and see her.” Shortly after I repaired to the place, and to my surprise, at a first glance, discovered that, instead of the hock joint being *luxated*, the tibia was fractured, and that the fracture was a little above the point of the hock, and direct across. On explaining to the owner how the case stood, he seemed much amazed, and cried out “She’s not worth a farthing: there’s not a shadow of chance!” But I told him, and with a good deal of confidence, that there *was* a chance, and “a good one too;” and, if he would go by my directions, I made little doubt but I could put “all right.” To which he most readily consented; yet not without that little misgiving which so many persons are prone to when any thing untoward takes place, or the case happens to present a bad feature.

Treatment.—We first set to work to prepare an adhesive bandage, several yards in length; then, by means of tow and short wool dipped in the adhesive mixture, and applied to all the hollow parts so as to make them as even as possible, and that the bandage might have an equal bearing, the bandage was applied and firmly fixed; and, by means of a strong leathern bandage, cut in a shape so as to be made easily applicable to cases of the kind—and which I always have on hand, and to which four straps and buckles are attached—the part was securely fixed, and in a position from which it could not easily recede. In this manner she was turned into a loose box, where she had plenty of room to bestir herself, get up and lay down, all which she did with alacrity. From this time not the least untoward symptom took place. The beast fed, drank and ruminated, and milked surprisingly, and at the time of recording this paper has been for a month grazing along with the other cattle. The bandages were never once removed, or have ever shifted their place; a circumstance I do not remember to have seen before—altogether, “a most lucky case, I suppose!”

In general, this is the plan I take with fractured tibia; allowing a little digression for circumstances, such as a compound fracture, high state of fever, &c. And in most cases I have been successful, as regards the treatment of cattle.

In the horse I have never met with a case of fractured tibia, otherwise I would pursue the same mode of treatment; that is, fixing the limb in an exact position in the manner described, and using other means to abate inflammation when an attendant, but refraining from slinging, as I have found out, to my discomfort and

the cost of my employer, that it seldom does good, and very often harm, and that cases in general have done better where it has not been had recourse to.

Still, I do not mean to say that all cases will go on in so straightforward a manner as this one. All cases do not present the same chance of recovery. Yet it is my firm belief that, in very many instances, there rests more fault with the medical attendant in not pursuing a right line of treatment, and in being over-officious, than with any want of that power afforded by Nature to the fractured part.

Remarks.—Now, it is my opinion that, in the present case, at my first visit the bone was not completely broken in two, and for these reasons :—First, because the leg and thigh presented a straight line, which it did not afterwards; and, secondly, from its not evincing play upon shaking, as it did upon my second visit. But, being so far weakened from the effects of the cramp, my opinion is that, from the efforts of the cow laying down and getting up, the fracture was made complete, and separation produced; otherwise, how could I so easily have detected it at my second visit? Neither can I agree with some authors who declare that almost all cases of simple fractures may be cured; but I do agree and believe with those who assert that many more cases might be cured than are, providing no more artificial means were employed than become absolutely necessary.

In cases like the above, and especially in instances of very acute lameness, and where there exists no visible sign for a favourable diagnosis, or where the case appears doubtful, it may be as well not to be too forward in giving an opinion; since it may lead to some unpleasantness, or be not unlikely, should our employer be a man of choleric temperament, to lead to a prompt dismissal.

RUPTURED STOMACH,

RESULTING FROM THE IMPACTMENT OF A PORTION OF CALCULUS
WITHIN THE INTESTINES OF A MARE.

By J. WOODGER, V.S., Market-street, Paddington.

AN aged brown mare belonging to Mr. B—— was sent to my infirmary on the 12th August last, suffering under a severe attack of gripes, which had been in existence about half an hour. She had not worked on that day, but had fed, and appeared as usual up to the period of the attack, which was sudden and violent, occurring about noon.

I had her placed immediately in a loose box. The instant she entered she fell and rolled upon her back, resting her legs against the wall, bending her neck as far round towards her side as possible, as if to direct us with her head to the immediate seat of the disease; in which position she continued to lie for about two minutes, experiencing a mitigation of the fierceness of the attack. The symptoms then returned with increased violence; her convulsions became of so intense a character as almost to defy the possibility of approaching her to administer medicine. With difficulty, however, a powerful antispasmodic draught was administered, and repeated at intervals of a quarter of an hour, varying the quantity of medicine according to the circumstances of the case, though affording but slight relief. The symptoms continuing of a severe and dangerous character, rendered the case hopeless: blood-letting was had recourse to, to a full extent. Sinapisms, with acetic acid and liq. ammoniæ, applied to the abdomen; a full dose of purgative medicine administered, and enemas of warm water with soft soap thrown up. Two hours after her admission a great improvement was visible, though still in pain, as evidenced by her continually pawing and walking round in the box. Gave enema of tobacco fume, which produced a temporary good effect. The symptoms did not return so severely, but continued of a subacute character, varying but very little till the evening of the 14th, when the acute symptoms again returned, continuing about twenty minutes. Gave medicine; repeated the tobacco fumes and sinapism to the abdomen, which appeared to do much good; for as soon as the irritating effects of the mustard had subsided, the mare appeared free from pain, but exhibited a very dull appearance, which I attributed to the effect of the large quantity of medicine administered. Within one hour from the time of this last attack she voided a calculus of an irregular ovoid shape, measuring in its longest diameter 4 inches by $3\frac{1}{4}$ inches, weight 17 ounces avoirdupois. Its character belonged to the class Professor Morton, in his valuable work on Calculous Concretions in the Horse, &c. designates "mixed:" one-third of its surface presented the appearance of the dung-ball or oat-hair calculus; the remaining part exhibited the character of the triple phosphate, being perfectly smooth and polished upon its surface, which greatly facilitated its passage.

From this period the mare rapidly improved, and very soon commenced feeding with her usual appetite, shewing no symptom of uneasiness; the action of the bowels became regular, the fæces of a soft pultaceous consistence—no purging.

15th.—She was sent to her own stable as convalescent.

16th.—I called to see her, when she appeared to be going on very well, having ate and drunk as well as ever; the bowels open

and soluble from the effect of bran mash,es, &c., as recommended to be freely given for a few days.

17th, half-past 6 o'clock, A.M.—She was found by the groom down and rolling about in much pain, and in a state of profuse perspiration: she had eaten the food placed before her the previous evening.

She was immediately sent back to my infirmary (a distance of three hundred yards), and placed in a loose box. I was from home at the time, but returned in about half an hour; the mare, however, was dead. She had died within a few minutes after entering the box.

By the symptoms I gathered from the groom, the sudden manner in which she had died, together with her having eaten so well even up to within so short a period of her death, I felt satisfied that a rupture had taken place either in the stomach or in some part of the alimentary canal.

Post-mortem examination.—On opening the abdomen, the contents of the stomach were greatly scattered amongst the different viscera, plainly indicating a rupture of that viscus, which was found to exist to the extent of five or six inches on its great curvature; the intestines but slightly inflamed, excepting for the space of about twenty inches of the single colon, in which part was closely impacted the largest portion of a calculus of the same character as the one previously described, but less in size, weighing six ounces and a-half, measuring in its greatest length three inches and three quarters, its sides possessing sharp irregular edges, from which portions of the triple phosphate kind had separated. It may be interesting to mention that this mare voided a small calculus of the same character as those previously described about two years since, its weight four ounces. The passage of this calculus was not accompanied with symptoms of pain. She had been in the possession of her owner nearly six years, and had never shewn any symptoms of gripes.

Remarks.—It must at once appear evident that the cause of the first attack arose from the passage of the calculus voided on the evening of the 14th; and had there not been another left behind, the mare, probably, would not have experienced the second attack. If the latter calculus had possessed as smooth and even a surface as the former, it would in all probability have been voided with less pain than that which accompanied the passage of the preceding one. It was the roughness of its sides, from portions having separated, that offered such an obstacle to its passage; and from the violent manner in which she fell and plunged about, the stomach, being probably at the time quite full, gave way.

I remain, your's obediently.

OBSERVATIONS ON INFLAMMATION OF THE KIDNEYS IN CATTLE.

By JOHN RELPH, *Veterinary Surgeon, Sebergham.*

NEPHRITIS in cattle is not of frequent occurrence. Many of its symptoms are common to other diseases, with some of which it sometimes appears complicated. This leads me to doubt that its diagnosis has been clearly given by writers; nor do I myself feel competent to give its true symptomatology, not having notes of cases by me. Yet, should the following remarks appear to you calculated to assist the junior veterinarian in detecting the disease, or to excite some able veterinarian to delineate it, perhaps you will give them a place in your Journal, which has done so much for the advancement of veterinary science.

The disease is attended with fever; impairment of the digestive functions; a preference to dry food (as in the horse under the same disease); and ultimately rumination ceases, and the appetite is lost. The pulse is frequent, the respirations short and quick, and the animal grunts or moans. The spine is arched, and very tender over the dorsal and lumbar regions, particularly about the former. The recumbent posture is preferred; for, when forced to rise, the pain is increased, as is shewn by the breathing being more hurried, and the moan being more distressingly uttered. Moving, and the act of expelling the fæces and urine, have the same effect. Sometimes frequent shifting of the hind feet, and catching them up towards the belly, is observed. The urine may be high coloured, some say bloody, deficient in quantity, or altogether suppressed. Inability to rise is very probable to occur in this disease.

From this statement it is evident, without a careful examination by auscultation, &c., reposing in an easy assurance of our penetration, it is possible we may pronounce the disease to be pleuritis, pneumonia, &c.; or, fixing our attention more on the moan and disordered state of the stomach and intestines, which usually exist in this complaint, we may possibly set it down as indigestion, or inflammation in the organs of digestion. A careful examination of the case will generally lead to the true seat of the disease; and, with a view of removing all doubt, the state of the kidneys may be explored with the hand per anum.

I never found either mucous or albuminous urine in cattle; but some months ago I tested the urine of a horse labouring under acute nephritis, which exhibited both these qualities, alternately;

thus proving that we may have either mucous or albuminous urine during the progress of inflammation of the kidneys of the horse.

The Plan of Treatment is obvious. Draw blood to reduce the force of the circulation; clear the stomachs and bowels by agents that do not excite the kidneys; and equalize the circulation, and restore the secretions by sedatives, &c. To fulfil the second intention, we have ol. lini, ol. croton, or, what I prefer, the sem. croton. and sulphur: for the latter, the potassio-tartrate of antimony in doses of 15 grs. to ʒss, veratrum, &c. When the pain is great, opium or hyosciamus, or belladonna, probably, might be useful; and should the functions of the kidneys continue suspended after the active inflammation has subsided, I would not hesitate to act as under similar circumstances in the horse, and give a diuretic,—the balsam copaibæ.

Counter-irritation should not be neglected, as the mustard embrocation; also plenty of clothing. In country practice we often avail ourselves of a bag of heated oats placed over the loins of the horse so affected, with much benefit.

A few days since I attended a cow affected with diarrhœa and nephritis. After the fæces had attained healthy consistency, copious but not watery discharges were apparently re-established by the exhibition of p. colchici in doses of ʒj to ʒij, with solution of cyanide of potassium, twice a-day; afterwards, the pot. tart. of antim. and veratrum every six hours; and a charge over the loins and back were employed with success. Mashies or gruel with linseed constituted the food.

Oct. 13th, 1849.

THE OS UTERI WANTING IN A HEIFER.

By CAUSTIC.

MALFORMATION and disease of the uterus occur more frequently among cows than other animals; at least such is the opinion I have formed, from the number of cases I have met with in that animal, and its rare occurrence in any other. Why such should be the case I shall not now stop to inquire; my present purpose being that of communicating a case in point.

On the 25th of August, 1849, I was informed by Mr. M—— that he had a heifer not quite well, which he was feeding for the butcher. He thought some bull had got into the field to her, and over-bulled her. I gave him an aperient, and recommended him to let me see her if she was no better. The following morning I was called in great haste to see her, she being reported to be much worse. I was soon with my patient. She was in very high con-

dition. The symptoms were, pulse 84, and hard; countenance sharp and expressive of pain; constant straining; urine and dung voided frequently, but in very small quantities; the fæces were loose, and the urine of its natural colour. I tried to pass my hand up the rectum for the purpose of examining the state of the uterus, but could not do so more than to the extent of six inches, in consequence of that viscus being in such a state of distention, forcing itself against the rectum. On withdrawing my hand, I discovered it was covered with blood, no doubt caused by the constant straining and inflammation of the parts. I next endeavoured to accomplish my object by examination per vaginam, but was frustrated by the smallness of the vagina, and the pressure upon the parts by the bladder and uterus. I now with great difficulty passed my male catheter into the bladder, and drew off an immense quantity of urine, which appeared to relieve her much. After doing so, I imagined I should have more room, and consequently be enabled to ascertain the nature of the contents of the uterus; but I could not pass the hand sufficiently far, either up the vagina or rectum, to be able to speak positively as to the nature of the case; and I must confess, therefore, I was exceedingly puzzled. It was certainly not a case of hydrops uteri, there being a total absence of any pathognomonic symptoms warranting such condition of the womb. The bladder, too, was now empty. Tumours in those parts are in general pedunculated, giving to them more freedom, less bulkiness, and incapability of presenting such resistance. She could not be in calf, for the owner informed me, she was bulling a few weeks previous, but was not admitted to sexual intercourse.

Weighing these things over in my mind, I determined to pass a canula into the womb *per vaginam*, and through the os uteri; but even here I was foiled, for I could not by any means discover the opening into the womb. I thought for a moment of passing the trochar into the womb at haphazard, through the cervix; but such practice would have better suited the farrier of old than a member of the Veterinary College. Therefore, seeing no probability of doing any good, and as she was fit for the butcher, I recommended the owner to have her killed. He immediately acted upon my suggestions; and I had the pleasure of being present at the time she was opened.

Post-mortem examination.—The stomachs and intestines were perfectly healthy, with the exception of the latter portion of the rectum, which was very much inflamed. The bladder was nearly empty, was slightly inflamed, but much more so at its cervix. The vagina was particularly small, and also much inflamed. The uterus was of immense size, of an oval form, and *without any os uteri*, and did not communicate with the ovaries. On cutting into

it, some gallons of thick gelatinous-looking fluid escaped, much resembling liquid glue.

* * * The "scraps" are very acceptable. They always serve to fill up chinks and crannies, and oftentimes prove a relish after the larger and costlier dishes.—ED. VET.

VETERINARY JURISPRUDENCE.

COUNTY COURT.

(Before Joseph St. John Yates, Esq., Judge.)

HORSE WARRANTY.

Kenworthy v. Boden.

THIS was an action to recover £20. The plaintiff was an extensive coal proprietor near Ashton-under-Lyne, and was represented by *Mr. Hudson*; and the defendant was a highly respectable miller in Portwood, in this county (Hereford?), for whom *Mr. Wm. Vaughan* appeared.

Mr. Hudson, in opening the case, said that the defendant sold *Mr. Kenworthy* a horse on the 5th of March for £45, giving him a warranty of soundness. The animal was, however, at the time labouring under a disease called an enlargement of the bone, and which required considerable time before it could arrive at any very serious extent. Now, although *Mr. Boden* signed a warranty, he should be able to prove that the lump on the fetlock existed at the time of the sale on the 5th of March; that the animal immediately fell lame; and became, therefore, unsound. The horse had been publicly sold, of which the defendant had notice, for £30, leaving a deficiency of £15; to this must be added loss of service, keep, expenses of sale, and other charges, amounting to £11, making £26. The surplus of £6 not being recoverable here, the sum sought was £20. The first witness called was

Mr. John Kenworthy, who said he was in partnership with his brothers James and George, as cotton manufacturers and colliery proprietors, in and near Ashton-under-Lyne. He came to Stockport fair on March 5, to purchase a horse, and was accompanied by *Joseph Swaine*, a veterinary surgeon. In consequence of which he said he went to the premises of *Mr. Boden* to inquire whether he had a horse on sale, and he said he had, as he contemplated having his goods conveyed by rails in future. After waiting a little time a grey horse, a large one, returned with the cart; it was in the

chains. Mr. Boden asked £45 for it; he said that it had had the influenza three times, and was not quite recovered, but if worked gently for a short time would make a good horse. Before agreeing for the purchase, Swaine, after running the horse about, put it into the stable, began to examine him, Mr. Boden being there. Passing his hand down the near fore fetlock joint, Swaine said, "Here's a lump here."—"I am not aware of it," observed Mr. Boden. Swaine replied, "I will not turn my back upon any veterinary surgeon; and I say there is." Mr. Boden then examined the leg, and said, "this is nothing, man; however, I will warrant him sound, and, if Mr. Kenworthy does not like him after he has used him a bit, I'll take him back." He, witness, then paid £45, receiving back half a sovereign, and a warranty that the horse was "sound and perfect," drawn up by the clerk and signed by Mr. Boden. The horse was taken charge of by Swaine; and Mr. Ashton the book-keeper at the collieries, Lees the carter, and other parties, received particular instructions as to working the horse very gently, inasmuch as it was labouring under influenza or cold. Went in three weeks after to Leamington and London, and returned on the 20th of May, when his attention was drawn to the condition of the horse, which had fallen lame. Sent for Swaine, and it was examined by Mr. Worthington, veterinary surgeon, Manchester, and, in consequence of his reporting the horse unsound, it was sold at the Manchester Repository for £30. Paid £1.10s. as commission for selling, so that, in truth, it only realized £28.10s. in money. The keep was 3s..9d.; and two veterinary surgeons' fees were paid out of it. Have lost a good deal of work by the animal falling lame; we paid 3s. or 3s.6d. a-day, and their keep, for the use of other horses; that is the minimum price. The keep of a horse will average from 15s. to 20s. a-week, as we give them plenty of corn. [*Laughter.*]

Cross-examined by Mr. Wm. Vaughan.—Before witness went to London nothing was said about the lameness; came down for a short time in April, but did not go to the works; heard nothing then about the enlargement on the foot. When the men did complain about the horse not going on very well, thought it arose from the influenza. There was no qualification in the warranty about taking the horse back again. Have not had much experience in horses; what he had had, he had paid dearly for. [*Laughter.*] The horse had been engaged in gentle work, such as carting coal and coke, and occasionally dirt, sometimes alone and sometimes with other horses. Desired the men not to allow the horse to take coal more than two or three times a-day. This horse, the grey, was generally worked with an old horse. Mr. Wm. Mellor, of Ashton, went to Mr. Boden's about it. The horse was sold by public competition at the Repository in consequence of a dispute, and it was so stated in the notice of sale. Understood Mellor to say that he

did not bid, but that Sigley bid for him. Mellor did not go with him to Manchester; witness lives at Cheetham Hill. Witness told Sigley that this horse was being sold in consequence of a dispute, and he thought it would go cheap; and if he (Sigley) wanted a good bargain, he had better attend. Told him the horse would suit him, and that it would be sold without reserve. Did not exactly tell him to buy it, and did not desire him to buy it back for the concern; believe he had instructions to go as far as £28, to prevent it being thrown away. [*Laughter.*] He was certainly told that, if it went beyond that, to let it go.

Re-examined.—Mr. Mellor, the friend of Mr. Boden, bid more money, and purchased the horse for £30.

Mr. Joseph Swaine, the veterinary surgeon, from Ashton, swore that, when he accompanied Mr. Kenworthy to examine the horse, he found a bony enlargement inside the near fetlock. [He handed in an anatomical specimen of a horse's lower leg, fetlock, foot, &c., but without shewing any thing that could assist the jury in comprehending the nature of the enlargement.] Told the parties he could not pass the horse as sound. Mr. Boden also examined the leg; he stated he was as capable of doing so as any veterinary surgeon, and denied that there was any bony enlargement. The warranty was however given, and the horse was taken to Mr. Kenworthy's. On the week following was called in, and treated the horse as for another attack of influenza. In the beginning of May, Lees, the carter, brought it again to his house, and, on examining, found the enlargement still remaining on the fetlock joint. Gave him something to rub it with, and made an alteration in the shoeing. Still it continued lame; the enlargement was the cause of that lameness. Mr. Worthington, of Manchester, had pronounced the horse unsound. Saw Mr. Boden at Ashton, on the Wednesday after Mr. Kenworthy's return from London, and told him Mr. Kenworthy wanted to see him about the grey horse. Mr. Boden asked what about. Witness replied, because it had fallen lame from the enlargement of the bone inside the fetlock. Mr. Boden said he had nothing to do with that. The enlargement in question would be very slow in making its appearance; it could not have come in less than twelve months' time.

Cross-examined.—Passed the College last April twelve months, and lives about half a mile from the collieries. By shoeing a great alteration may be made in the effect of even the enlargement of the bone. The smith put the shoes on; was not present himself to see how it was done.

Wm. Mirfield proved the delivery of the horse at Mr. Kenworthy's stables; and Wm. Lees, the carter, was examined as to the particular mode of treatment. He only submitted the horse to one-third

the work it ought to have done; he only went to Ashton and Staley Bridge, and sometimes to Manchester, with thirty cwt. of coke or coal. When it began regular work, it fell lame.

Cross-examined.—The horse was treated as for a bad cold; bran mashes were given. Nothing was given for the foot.

By the Judge.—The fresh shoes did not make any difference with the bony substance; it walked as lame as ever it had done.

Messrs. S. Ashton, the book-keeper, and *George Pease*, the clerk, were examined to shew that the horse had been very mildly treated by Mr. Kenworthy's directions, doing only one-third its ordinary work, but nevertheless it became lame.

Mr. Isaac Worthington, veterinary surgeon, Grosvenor-street, Manchester, said he recollected Mr. Swaine and Wm. Lees bringing a grey horse for examination; it was lame, and found that that lameness proceeded from an enlargement and ossification of the inner side of the near fore leg. Had no doubt whatever of the ossification; it was of some standing, and generally ends in permanent lameness.

Cross-examined.—Passed the College twelve months since, was twenty-four years of age, served six or seven years with the late Mr. Hollingworth, and had seen very extensive practice. Nothing could cure this enlargement; repeated blistering and firing would be the best to relieve it; but nothing would make it sound. Other preparations were used in such cases, the most common of which was iodine. Have had a many under treatment for such like, but nothing proved of service. Am no valuer of horses, but should think the horse was worth £30. Would not give either £35 or £30 for a lame horse.

By the Judge.—An enlargement of the bone is incurable.

Mr. Robert Ousey, a veterinary surgeon, from Ashton-under-Lyne, said he saw Mr. Boden at Staley-bridge on the 27th of June. He then intimated to witness that Mr. Mellor would wait upon him about seeing a grey horse. Examined it, and found it lame; it was the same that had frequently passed his house in Mr. Kenworthy's cart. Found it lame of the near fore leg, arising from the ossification of the large pastern bone; it led from the fetlock bone at the joint to the hoof. Bony secretions being tardy, it might have taken six or eight months in formation. It would not appear in three months.

Cross-examined.—Blistering and firing would relieve it for a time; but on coming in contact with hard stones the horse would soon fall lame again. There were two pastern bones, a long and a short one.

Re-examined.—It would be impossible to make such a lameness sound.

By the Judge.—My opinion is that the injury has been occasioned by the horse striking against the hard pavement. Some scientific men think it is constitutional. There was not the same enlargement on both legs.

This being the plaintiff's case,

Mr. Vaughan addressed the jury on behalf of the defendant, who he described as a very respectable miller in this borough, and who would not knowingly do any thing half so shabby to any person, much less to a gentleman like Mr. Kenworthy, for all the parties were highly respectable. Mr. Boden believes, at this moment, that there was no lameness upon the horse when it left his stables; if there was, it was utterly unknown to him. His honest conviction was, that the only thing which ailed the horse was a cold, which he candidly told Mr. Kenworthy; so that, if any thing particular had resulted from this cold or influenza, Mr. Kenworthy was fully aware of the fact, and he bought the horse with his eyes open upon that subject. If there really was an enlargement of the bone, it was seen by Swaine, and mentioned to Mr. Kenworthy at that time, notwithstanding which he purchased it for £45. The only reason for this action, then, was because the horse did not do a sufficient quantity of work for the plaintiff, yet the orders were that it should only be put to such and such work. The directions were complied with, and yet they complain of loss of service. Why, the horse had not been long in his new quarters before it was again attacked with influenza, and treated for such at the time, not for the foot. Instead of blistering and firing, which the surgeon said was the most advisable, bran mash was given. Then why this assumed lameness?—why, it originated with the farriers, for Swaine did not see the shoeing, but left it to his apprentice. It then became lame, and was sold, and purchased by Mr. Mellor for £30. Now, Mr. Boden has no desire that his character should be sported with in this matter, and, therefore, confidently appeals to a jury.

His Honour said, the question is, was the horse sound or unsound when sold to the plaintiff, and not whether the defendant knew it. If it had even the seeds of disease, the defendant would be liable. We are not trying the defendant's character, or even his knowledge of the enlargement.

Mr. Boden, the defendant, was sworn.—He said he bought the horse in dispute in August 1848. He intended to part with some of his horses, and told Mr. Kenworthy he would rather sell any of them than the grey one; but Mr. Kenworthy, on seeing it, made up his mind to have it. Did not believe there was any blemish on the near foot when it was sold. It was the other leg—the off fore leg—that Swaine pointed out. The horse was then suffering from

the influenza; it had had it also from January to the middle of February: it was, however, getting a little better, and they were putting him to work in the chains. Since this action the horse had been sent to Mr. Moore, who had succeeded Mr. Hollingworth as veterinary surgeon, in Manchester; and he said *there was no enlargement of the joints of the foot*.

Cross-examined.—The horse had a hood on when he was sold. Before it was taken to Mr. Moore's, it had been examined at Ashton, at the request of Mr. Mellor, by Mr. Ousey, who said *he believed* it was unsound; but did not take Mr. Ousey's opinion in the matter, and therefore did not communicate it to Mr. Moore. James Upton had attended the horse for influenza.

Mr. James Pearson, the clerk, who drew out the warranty, proved that Mr. Boden was very reluctant in consenting to sell the horse; and said, if the horse did not please in a few days, he would return the money.

James Taylor, the carter, said he never perceived any lameness or enlargement on the fore foot. He had worked the horse, and always found it sound; it ailed nothing but a cold.

By the Judge.—All the carting is on pavement in Stockport.

Mr. James Moore, veterinary surgeon, of Manchester, said he had passed before the College. He had been in business twenty-four years, twelve of which he had passed with the late Mr. Hollingworth, to whose practice he had succeeded. On the 2d instant his opinion was asked respecting a grey horse which was submitted to him. Examined it particularly, first running it on the pavement, and then holding it still, and *found it quite sound*, and gave a certificate to that effect. In order to fortify his opinion, he put the horse up for an hour, and again submitted it to the same test, with the same results. His attention was called to the feet, and the alleged enlargement of the pastern bone, but could find *no enlargement but what was natural* in strong-bred horses. Both legs were alike in size and shape, and consequently there could be no particular enlargement of one leg over the other. There was no enlargement whatever; *that is, there was no diseased enlargement*—all was quite natural. Has studied the anatomy of the horse, and has received a medal for his anatomical knowledge.

Cross-examined.—It was on Monday morning he examined the horse; Mr. Boden and Mr. Mellor were present, and made no allusion to Mr. Ousey's opinion. He (witness) in his evidence had not said any thing about lameness; he said the horse was sound, and *there was no enlargement when he saw the horse*.

By the Judge.—The bones of the legs were quite consistent with the size of the animal. In size and shape *the legs both correspond*; there was no diseased enlargement.

Mr. James Upton, a farrier, Edgeley, gave similar evidence. There was no enlargement. Attended the horse in January and February for influenza.

Mr. W. Mellor, wharfinger, Ashton-under-Lyne, said he purchased a grey horse at the Repository, Manchester, on the 19th of June; took it home, and has worked it ever since. Did not observe any lameness; has had twenty-four years' experience in horses. If it had been lame, he should have had a like aim about it, and would not have paid £30 for it. When the horse was in *Mr. Kenworthy's* keeping, he (witness) liked it well. Did not know that *Edward Sigley* went to the sale as a sweetener. Has worked the horse up to the present time.

Cross-examined.—It has since been shod with leather between the hoofs and shoes by *Joseph Swaine's* man, and had those shoes on when examined by *Mr. Moore*. Was not likely to tell *Mr. Moore* what *Mr. Ousey* had said.

Mr. Hudson addressed the jury in conclusion, and directed their attention to the contradictory evidence; after which

His Honour summed up favourably for the plaintiff, stating, if they were of opinion that the plaintiff was entitled to any damages, it would be £16..13s..9d., as some of the items charged by *Mr. Hudson* could not be allowed.

The jury, after a few minutes' deliberation, returned a verdict of £10. The case occupied the Court from twelve to nearly four o'clock,

Stockport Advertiser.

Foreign Department.

M. RENAULT, director of the Alfort (Veterinary) School, has lately read to the Academy of Sciences at Paris, a paper which has created some sensation in the medical world: its title is

EXPERIMENTAL STUDIES ON THE ABSORPTION OF VIRUSES.

It is not known for certain whether it is immediately, or only after several minutes, several hours, or even days, that virulent matter deposited upon or introduced into any part begins to spread itself over and infect the system; at what period of time its action ceases to be *local*, to become *general*. We lack knowledge up to how long we may hope to destroy the virus by attacking it in its seat of inoculation, and, by destroying or removing the infected

part, succeed in preventing or mitigating infection. Let us, by way of example, examine the opinions entertained about the infection of syphilis.

HUNTER said, and others have repeated after him, that "chancre originating from contagion is for some days at first *purely a local affection*."—"If it be destroyed as soon as it makes its appearance," says this great surgeon, "little need be feared of general infection; since then it is to be reasonably presumed that insufficient time has been given for infection of the system to take place.

RIVES and RICORD are of the same opinion. GIBERT does not go so far. "Cauterization of the chancre on the third, or at furthest the fourth day, appears a probability but not a certainty of arresting the disease."

VELPEAU, on the other hand, does not assert that cauterization of the chancre as soon as it appears will hinder infection; he vouches only for its possibility. And ROCHOUX, Rous, and Cloquet, are of opinion that absorption in general is so prompt and rapid, that we never can flatter ourselves that we have cauterized time enough to save infection.

Concerning the vaccine and variolous viruses, M. Bousquet, in the excellent treatise he has just published on the subject, informs us, that "according to some vaccinators, vaccination is purely a local affection up to the time the virus is taken up from the pustule and carried into the current of the circulation." Whereas, according to another new treatise on vaccination, "there is no period whatever of inertia in vaccine virus. The pustular eruption is but the effect of its antecedent secret action: a theory which makes infection of the system almost simultaneous with vaccination." So, according to one theory, cow-pox begins by being *local*, and afterwards becomes *constitutional*; according to the other, it begins by being constitutional, and speedily after shews itself in a local form.

With a view of clearing up these doubts, or at least of casting some light on their resolution, it was that M. Renault undertook the experiments whose results have been summarily made known to the Academy. The viruses which he has chosen for experiment are those of acute glanders and sheep-pox; and these viruses he selected because he thought that of glanders was analogous in some respects to the virus of syphilis, whilst the pox in sheep bore the most complete relationship to small-pox and vaccination in man.

The question M. Renault undertook to solve was—*when a portion of glandered or sheep-pox matter was inserted underneath the epidermis, to ascertain the rapidity or tardiness with which absorption of it took place, reckoning from the moment of inoculation.*

In other words, and in another point of view,

TO FIND OUT HOW LONG AFTER INOCULATION IT IS PRACTICABLE TO DESTROY OR REMOVE THE PORTION OF SKIN UNDERNEATH THE EPIDERMIC COVERING OF WHICH EITHER VIRUS HAS BEEN INSERTED, SO AS TO PREVENT OR SENSIBLY DIMINISH ITS GENERAL OPERATION.

1.—*Experiments on the Absorption of Glandered Virus.*

Thirteen horses were submitted to experiments with glandered virus.

In the first and second, a flap of skin was excised, of the size of a halfcrown piece, around the part inoculated, ninety-six hours after inoculation, and immediately after the wound was well cauterized. Both horses died of acute glanders; one in twelve days, the other in eight days after inoculation.

The third horse, cauterized fifty hours after inoculation, died of acute glanders nine days afterwards.

The fourth horse, cauterized twenty-four hours after inoculation, died of acute glanders seven days afterwards.

The fifth, cauterized ten hours after inoculation, died of acute glanders nine days afterwards.

The sixth, cauterized eight hours after inoculation, died of acute glanders six days afterwards.

The seventh, cauterized six hours after inoculation, was destroyed on the twentieth day afterwards, exhibiting unequivocal symptoms of sub-acute glanders. In the lungs, glands, and lymphatics around the inoculated part were found characteristic lesions of the disease.

The eighth, cauterized five hours after inoculation, died of acute glanders twenty-one days afterwards.

The ninth, cauterized four hours after inoculation, died of acute glanders seven days afterwards.

The tenth was cauterized four hours after inoculation; but, prior to the cauterizing, a flap of skin as large as a crown piece had been excised. Eighteen days afterwards this horse was destroyed. Autopsy shewed in the nasal cavities, lungs, and spleen, the lesions characteristic of acute glanders.

The eleventh, cauterized three hours after inoculation, died of acute glanders fifteen days afterwards.

The twelfth, cauterized two hours after inoculation, died of acute glanders fourteen days afterwards.

Lastly, the thirteenth horse, cauterized as early as one hour after inoculation, died fourteen days afterwards.

Further than this M. Renault has not pushed his experiments, so far as concerns the virus of glanders: he has it in contemplation, however, to do so at another time.

With a view of throwing light on this interesting question, he wished to ascertain in what space of time after inoculation the virus, evidently very rapidly absorbed, entered the circulatory system and infected the mass of blood to that degree to impart to the fluid itself virulent properties.

M. H. Bouley's experiments, in conjunction with his own, had already informed him that transfusion into the veins of a healthy horse of the blood of one suffering from acute glanders, promptly communicated the disease. And, knowing this, he felt curious to learn, through experiment, at what period subsequent to inoculation with glandered matter—in other words, at what period of infection—the virus infects the blood with contagion.

He made his first experiment quite early from the time of inoculation. Of blood drawn from the jugular vein of a horse two hours after he had been inoculated $13\frac{1}{2}$ drachms (5 centilitres) were injected into the veins of a healthy horse. The latter continued to enjoy excellent health up to the day of his being destroyed, which was the twenty-sixth after the operation. No lesion denotive of glanders was discovered.

The same experiment was repeated on a sound horse, and the same quantity of blood taken *four* hours subsequent to inoculation with the matter of acute glanders. The result proved the same.

2.—*Experiments on the Absorption of Sheep-pox Virus.*

These experiments were carefully made on twenty-two sheep: the virus used was fresh taken from pustules upon other sheep inoculated for the purpose; the lancet used was a canulated one; and the places inoculated were underneath the tail, and upon the inner side of the thigh. The cauterizations were made with an iron with a blunt point, at a vivid red heat, and every precaution was taken that not only the places to which the virus was immediately applied were cauterized, but also the surrounding parts as well. Indeed, in some of the experiments the skin was burnt throughout its substance.

Eleven hours was the longest interval suffered to elapse before the cautery was applied; this was progressively shortened to ten hours and a half, nine hours, eight hours, seven hours, six hours, five hours, four hours, three hours, two hours, one hour; subsequently, to thirty-six minutes, thirty, twenty-five, twenty, fifteen, thirteen, twelve, ten, eight, and ultimately to *five minutes* after inoculation.

In not one of these animals did cauterization of the inoculated part prevent or hinder the absorption of virus; a fact incontestably proved,—

1st. By the development upon the parts inoculated, and underneath the eschars resulting from cauterization, of veritable pustules, whose sheep-pox nature was recognised, not by their character and progress only, but likewise, and especially, by the property possessed by the matter they furnished of reproducing like pustules in sheep inoculated from them.

2dly. By the complete failure of re-inoculation of every one of the twenty-two animals, notwithstanding in such re-inoculations fresh matter was used whose activity had been tested by simultaneous and completely successful inoculation of other animals.

Whence it follows,

So far as concerns the virus of *acute glanders*, that its absorption may take place *in less than an hour*; and in so far as concerns *sheep-pox* virus, that it may happen *in less than five minutes*, whenever one or other of these poisons has been brought into contact with any point of the absorbent surface of the skin

Recueil de Médecine Vétérinaire.

SOME ANATOMICAL CONSIDERATIONS ON THE ETHMOID AND VOMER, AND CARTILAGINOUS SEPTUM OF THE NOSE.

By M. COLIN, Chef de Service at the Alfort School.

UP to the present day, anatomists, leaning too much in their descriptions to the organization of man, have considered the ethmoid and vomer as distinct bones, and the former as isolated from the inferior part of the sphenoid. This, however, is not the case.

Authors of comparative anatomy, who for a long time have recognised in most animals an anterior and posterior sphenoid bone, have remarked that these osseous pieces remain separate for a great part of life, and at length unite with the neighbouring bones rather than form an union with each other. This is now become an established fact. But what has hitherto been described as the anterior sphenoid bone is, in reality, nothing more than the principal part or *body of the ethmoid*.

Also the *vomer*, which has been looked upon as a separate bone, is, in reality, but an appendage of the ethmoid; its union with the convolutions of the latter being observable in several species of animals, even in the course of uterine existence, a long time prior to birth.

Indeed, the development of these bony pieces form an extremely interesting study, especially as it is very variable according to the species.

And the *septum nasi*, which has been considered a part perfectly distinct and separate, is nothing but a cartilaginous or ossific prolongation of the perpendicular plate of the ethmoid bone. For this cartilage, like all others, is very demonstrably covered by perichondrium, especially in the ox, and, when deprived of its pituitary membrane, ossifies more or less according to the animal; but little in the horse, a great deal in the ox, still more in the seal, in which, according to Cuvier, the ethmoidal plate extends to the extremity of the snout, in advance of the bones of the nose. And in a fossil pachyderm, the *rhinoceros ticherinus*, the septum has been found entirely osseous even in the heads of very young subjects: doubtless, in order to give a solid *point d'appui* to the facial incurvations, and to sustain the *alæ nasi*.

Recueil de Médecine Vétérinaire.

THE MODE IN WHICH PHOSPHATE OF LIME BECOMES TRANSPORTED FROM THE MINERAL INTO THE ORGANIC KINGDOM.

WE know that the phosphate of the basis, lime, generally designated *subphosphate of lime*, is found in almost every alimentary substance derived from the vegetable kingdom, and that to its presence is owing the production of whatever animals assimilate by the act of digestion, which afterwards becomes part of their own tissues.

The insolubility in water of this calcareous salt, as it is met with either in certain soils or in certain rich pastures, has given rise to the supposition that it was rendered soluble through the carbonic acid held in solution at times by rain water. This opinion rested, however, upon no direct evidence on the late occasion when M. Lassaigne undertook a series of researches to verify it.

From the observations which he has had it in his power to make, it results that the sub-phosphate of lime, in the state in which it forms the base of animal bone, is feebly soluble in water charged with carbonic acid at the ordinary temperature and pressure of the atmosphere; that this solution exerts a stimulant action on germination and vegetation, and that it is in this state of solution that the phosphate pervades the vessels of the plant to fix itself within their organization.

The mode of transport of the same salt into the animal economy is in part owing to the solvent power of the gastric juice, as has been proved; but, independently of this cause, there exists another of which physiologists have continued ignorant, and which appears to reside in the property possessed by salt and water of feebly dissolving the phosphate. This property, that has hitherto

escaped observation, has likewise been demonstrated by the same chemist.

This solubility of the phosphate of lime in water charged with chloride of sodium tends to explain the presence of phosphate of lime in the alkaline and saline liquids of the body, such as the *blood*, the *chyle*, the *saliva*, the *pancreatic juice*, the *bile*, &c.

It is, therefore, reasonable to admit, that salt added to the food ought, independently of the stimulant action it exerts on the digestive organs, to operate in promoting the solution of certain organic and mineral principles, and in this manner to favour their assimilation.

This new property recognised in the solution of marine salt, of dissolving small quantities of sub-phosphate of lime and carbonate of lime (mineral constituents of the bones of animals), adds to what has been taught us by Dr. Davy as the solubility of certain insoluble azotic elements which a solution of salt transforms into soluble albumen.

The recent facts brought to the attention of surgeons and chemists will doubtless serve to elucidate many points still obscure in animal and vegetable physiology; and may not we be permitted to attribute to the solvent virtue of a solution of marine or calcareous salts part of the good effects arising from spreading salt upon certain lands?

And the fattening animal pastures which contain more or less chloruret of sodium and other alkaline chlorurets, do they not owe part of their fertilizing property to this mixture of saline and earthy phosphates always met with in such situations?

And in relation to nutrition, may we not explain the use of salt as a condiment, in man, as well as its addition to the food of animals, not only to the fact that salt constitutes an element of our fluids and solids, and is necessary in certain proportion for their normal preservation, but also, by the discovery of Lassaigne, that it works the solution of the phosphate and carbonate of lime, and determines the transport of them into the different parts of the animal economy?

Journal de Chimie Médicale.

Home Extracts.

CRUELTY TO ANIMALS' PREVENTION BILL.

I. THE preamble recites, that from and after the passing of this Act, the said recited acts (above declared), excepting so far as they repeal any other acts, be, and the same are hereby repealed,

save as to any offence committed against the provisions of the said recited acts, &c.

II. If any person shall from and after the passing of this Act wantonly or cruelly beat, ill-treat, over-drive, abuse, or torture any animal, every such offender shall for every such offence forfeit and pay a penalty not exceeding five pounds.

III. To use or employ any animal in drawing or assisting to draw any vehicle, or in carrying any person or any load, or in doing any work whatever, whilst such animal is, by reason of infirmity, disease, or injury, unfit to be so used or employed, or in doing any work whatever which is manifestly beyond the strength of such animal, shall be deemed to be a wanton and cruel abuse of such animal within the meaning of this Act: and if any person being the owner of any such animal shall use or employ, or cause, suffer, or permit any such animal to be used or employed in drawing or assisting to draw any vehicle, or in carrying any person or any load, or in doing any work whatever, while such animal is, by reason of infirmity, disease, or injury, unfit to be so used or employed, or any work whatever which is manifestly beyond the strength of such animal, every person so offending shall be deemed to have wantonly and cruelly abused such animal within the meaning of this Act, and in all such cases every person who shall let for hire or lend any such animal for any such work shall be deemed to be the owner thereof within the meaning of this Act; and if such animal shall be used or employed in drawing or assisting to draw any hackney carriage, stage carriage, or other public vehicle of the like nature, the production of a copy of the license granted in respect of such hackney carriage, stage carriage, or other public vehicle, shall be deemed sufficient evidence of the ownership of such animal within the meaning of this act, as against the person to whom or in whose name such license shall appear to have been granted; and if such animal shall be used or employed in drawing or assisting to draw any vehicle (not being of a public nature) upon which the name of any person shall appear as the owner or proprietor thereof, the person whose name shall so appear shall be deemed to be the owner of such animal within the meaning of this Act; unless such person shall prove to the satisfaction of the justice before whom the penalty is sought to be recovered that another person is the owner of such animal, and shall give to the said justice satisfactory information as to the name and place of residence or usual resort of such owner.

IV. Imposes penalty on persons keeping or using places for bull-baiting, dog-fighting, &c.

V. If any person shall, by wantonly or cruelly beating, ill-treating, over-driving, abusing or torturing any animal, do any

damage or injury to such animal, or shall thereby cause any damage or injury to be done to any person or to any property, every such offender shall on conviction of such offence pay to the owner of such animal (if the offender shall not be the owner thereof), or to the person who shall sustain damage or injury as aforesaid, such sum of money by way of compensation, not exceeding the sum of twenty pounds, as shall be ascertained and determined by the justice of the peace by whom such person shall have been convicted: Provided always, that the payment of such compensation, or any imprisonment for the non-payment thereof, shall not prevent or in any manner affect the punishment to which such person or the owner of such animal may be liable for or in respect of the beating, ill-treating, or abusing of the said animal: Provided also, that nothing herein contained shall prevent any proceeding by action against such offender, or the employer of such offender, where the amount of damage or injury is not sought to be recovered under this Act.

VI. { Food to be provided for impounded animals.

VII. { Pounds to be cleansed.

VIII. { Animals impounded for more than seven days may be

IX. { sold to pay expenses.

X. Imposes penalty for non-compliance with former acts, directing the affixing names over places kept for slaughtering cattle.

XI. Every person keeping or using or acting in the management of any place for the purpose of slaughtering horses or other cattle (not intended for butchers' meat) shall, immediately upon any horse or other cattle being brought to or delivered at such place for the purpose of being slaughtered, cut off or cause to be cut off the hair from the neck of such horse or other cattle; and within three days from the time of such horse or other cattle being brought or delivered as aforesaid, shall kill or cause to be killed the said horse or other cattle, and, until such horse or other cattle shall be killed, shall supply such horse or other cattle with a sufficient quantity of fit and wholesome food and water; and if any person keeping or using or acting in the management of any such place shall neglect or omit to cut or cause to be cut off the hair of the neck of such horse or other cattle, or to kill or cause to be killed any such horse or other cattle within the time above limited, or shall neglect or omit to supply a sufficient quantity of fit and wholesome food and water to such horse or other cattle as aforesaid, every such person shall, on conviction of any or either of the said offences, be liable to a penalty not exceeding ten pounds.

XII. Directs that cattle intended to be slaughtered may not be employed.

XIII. Orders that cattle received for slaughter be described in a book.

XIV. Enacts that any person licensed to slaughter horses not be licensed as a horse-dealer at the same time.

XV. Imposes penalty on conveying animals in such manner as causes unnecessary pain or suffering.

XVI. Directs that owners of dog-carts register the same, and specify the number of dogs kept.

XVII. The clerk of the peace to keep the register.

XVIII. Directs owners of dog-carts to have their name and address painted on their vehicles.

XIX. Imposes a penalty on over-loading vehicles drawn by dogs.

XX. And be it enacted, That when and so often as any of the offences against the provisions of this Act shall happen, it shall and may be lawful for any constable upon his own view thereof, or upon the complaint and information of any other person who shall declare his or her name and place of abode to the said constable, to seize and secure by the authority of this Act any such offender, and forthwith, without any other authority or warrant, to convey such offender before a justice of the peace, to be dealt with by such justice for such offence according to law.

XXI. Permits justices to hear complaints made under this Act within one month after offence committed.

XXII. As to service of summons.

XXIII. Warrant may be issued without summons.

XXIV. Justices may summons witnesses to appear.

XXV. Offenders not paying penalty may be committed.

XXVI. And it shall be lawful to detain the vehicle of any person taken into custody.

XXVII. Relates to obstructing of constables.

XXVIII. Directs that one moiety of the penalties shall go to the poor of the parish, and the other moiety to the person complaining or prosecuting.

XXIX. Orders that proprietors of public vehicles shall produce their servants by whom the offences have been committed.

* * * The remaining sections of the Bill relate to matters of law.

ON COD-LIVER OIL.

By JONATHAN PEREIRA, *M.D., F.R.S.*

[From the *Pharmaceutical Journal*.]

THE great and daily increasing consumption of cod-liver oil renders all inquiries relating to this therapeutical agent interesting alike to the physician and the pharmacist. I think, therefore,

that some account of the present state of our knowledge with respect to the chemical nature of this oil may not be unacceptable; the more so, as no account of De Jongh's analysis of this oil has yet appeared in this Journal.

It may be well to remind my readers, that while some of the fish-oils* of commerce are obtained exclusively from the liver, others are procured from the adipose tissue diffused through the body of the animal generally: in the former, therefore, we are prepared to find bile constituents which are not obtainable from the latter.

In fishes, properly so called, the distribution of oil in the body of the animal is not uniform. In the *Gadidæ* or Cod-tribe (common cod, dorse, coal-fish, pollack, turbot, ling, torsk, &c.), in the *Squalidæ* or Sharks, and in some other fishes, almost the whole adipose tissue of the animal is concentrated in the form of oil contained in the liver†. On the other hand, in the salmon, herring, sprat, and wolf-fish, the oil is more diffused through the body of the animal, and the liver is, comparatively speaking, devoid of it.

The oils obtained from the livers of the different species composing the tribe *Gadidæ* appear to be very similar in their physical and chemical qualities, and there is good reason for believing that they agree in their medicinal properties. To all of them the term *oleum jecoris aselli*‡, *oleum jecoris gadi*, or *cod-liver oil*§, is indiscriminately applied; though it is commonly used, especially in this country, to indicate the oil procured from the liver of the common

* I use the term *fish-oils* in its popular and commercial acceptation, and include under it not only the oils obtained from fishes properly so called, but also those procured from other aquatic animals, as the *cetacea* and seals.

† Professor Owen, in his *Lectures on the Comparative Anatomy and Physiology of the Vertebrate Animals* (Part 1, *Fishes*, p. 242, 1846), observes, that "the myriads of dog-fish captured and commonly rejected on our coasts, shew that the fishermen have not yet taken full advantage of this anatomical fact, which exposes to them an abundant source of a pure and valuable oil."

‡ Pliny (*Hist. Nat.*, lib. ix, cap. 28) states that there were two kinds of fishes called *aselli*, one smaller, termed *callariæ*, the other found in deep water and denominated *bacchi*; the latter were preferred to the former. Varro (*Opera Omnia*, p. 21, Durdrehti, 1619) says that these fishes derived their name *aselli* from their resemblance in colour to the ass.

By some latter writers, the term *asellus* has been extended to several species of the cod tribe. Thus, the common cod is called *asellus major*; the ling, *asellus longus*; the coal-fish, *asellus niger*; the whiting, *asellus albus*; the dorse, *asellus striatus*; the pollack, *asellus haifingo*, &c.

A few years ago, a writer in one of the medical journals, mistaking the meaning of the word *asellus*, gravely announced, that "*oil of the liver of the ass*" had been introduced, as a remedial agent, into Germany, from Sweden!

§ The term *cod-liver oil* is here used to indicate the oil obtained from the livers of any of the cod-tribe. In this sense it is about equivalent to the Latin term *oleum jecoris aselli*.

cod (*Gadus morrhua*, Cuv.). It would be better, therefore, to employ the term *oleum jecoris morrhuæ*, or simply *oleum morrhuæ*, when it is intended exclusively to designate the latter oil.

De Jongh, in his *Disquisitio comparativa chemico-medica de tribus olei jecoris aselli speciebus*, published at Leyden in 1843, states that the Bergen (Norwegian) oil is principally obtained from three species, viz. the dorse (*Gadus callarias*), the coal-fish (*Gadus carbonarius*), and the pollack (*Gadus pollachius*), but chiefly from the first.

In general, continental writers distinguish three varieties of cod-liver oil, one white or pale yellow, a second brownish-yellow, a third dark-brown. But between the finest pale yellow or almost colourless oil, and the dark brown cod-oil used by curriers, there is an almost infinite variety of shades, so that no absolute difference can be founded on colour only.

De Jongh made, in Mulder's laboratory, a very elaborate analysis of three kinds of cod-liver oil, the properties of which he thus describes:—

Three kinds of cod-liver oil are admitted and described by the writer just quoted; these are *pale*, *pale brown*, and *brown*.

1. *Pale cod-liver oil*. — Golden yellow; odour not disagreeable; not bitter, but leaving in the throat a somewhat acrid fishy taste; re-acts feebly as an acid; sp. gr. 0.923 at 63.°5 Fahr. Cold alcohol dissolves from 2.5 to 2.7 per cent. of the oil; hot alcohol from 3.5 to 4.5 per cent.: in ether it is soluble in all proportions.

2. *Pale brown cod-liver oil*. — Colour that of Malaga wine; odour not disagreeable; bitterish, leaving a slightly acrid fishy taste in the throat; re-acts feebly as an acid; sp. gr. 0.924 at 63.°5 Fahr. Cold alcohol dissolves from 2.8 to 3.2 per cent. of oil; hot alcohol from 6.5 to 6.8 per cent. Ether dissolves it in all proportions.

3. *Dark brown cod-liver oil*. — Dark brown is transmitted light greenish, in thin layers transparent; odour disagreeable, empyreumatic; taste bitter and empyreumatic, leaving behind in the fauces an acrid sensation; re-acts feebly as an acid; sp. gr. 0.929 at 63.°5 Fahr. Cold alcohol dissolves from 5.9 to 6.5 per cent. of it; hot alcohol from 6.5 to 6.9 per cent. In ether it is soluble in all proportions.

De Jongh found the principal constituents of these oils to be *oleate* and *margarate of glycerine*, possessing the usual properties. But they also contained *butyric* and *acetic acids*, the principal constituents of the bile (bilifellinic acid, bilifulvin, and cholic acid), some peculiar principles (among which was the substance called *gaduïn*), and not quite 1 per cent. of salts, containing iodine,

chlorine, and traces of bromine. Moreover, he found that the oil always contained free *phosphorus*.

The following table shews the proportions of the constituents in the three kinds of oil:—

Constituents.	Pale Oil.	Pale Brown Oil.	Brown Oil.
Oleic acid (with <i>Gaduin</i> and two } other substances..... .. }	74.03300	71.75700	69.78500
Margaric acid	11.75700	15.42100	16.14500
Glycerine.....	10.17700	9.07300	9.71100
Butyric acid	0.07436	—	0.15875
Acetic acid	0.04571	—	0.12506
Fellinic and cholic acids, with a } small quantity of margarine, } oleine, and bilifulvin	0.04300	0.06200	0.29900
Bilifulvin, bilifellinic acid, and two } peculiar substances..... .. }	0.26800	0.44500	0.87600
A peculiar substance, soluble in } alcohol..... .. }	0.00600	0.01300	0.03800
A peculiar substance, insoluble in } water, alcohol, and ether	0.00100	0.00200	0.00500
Iodine	0.03740	0.04060	0.02950
Chlorine, and traces of bromine	0.14880	0.15880	0.08400
Phosphoric acid	0.09135	0.07890	0.05365
Sulphuric acid.....	0.07100	0.08595	0.01010
Phosphorus.....	0.02125	0.01136	0.00754
Lime	0.15150	0.16780	0.08170
Magnesia.....	0.00880	0.01230	0.00380
Soda.....	0.05540	0.06810	0.01790
Iron	—	—	a trace
Loss	3.00943	2.60319	2.56900
Cod-liver oil	100.00000	100.00000	100.00000

By reference to this table, there will be observed some slight differences in the composition of the three kinds of oil. Whether these are constant or accidental, further investigations are required to determine. But, from De Jongh's analyses, it would appear that the *pale* oil is richest in oleic acid and glycerine—that the *brown* oil contains the largest amount of margaric, butyric, and acetic acids, and of the substances peculiar to cod-liver oil—and, lastly, that the *pale brown* oil is richest in iodine and saline matters.

I now proceed to notice in detail some of the substances which enter into the composition of this oil.

1. *Of Gaduin*.—For the discovery of this substance in cod-liver oil we are indebted to De Jongh. It may be obtained as follows: Saponify cod-liver oil by means of caustic soda, and decompose the soap thus obtained by means of acetate of lead. The resulting

lead-soap is to be treated with ether, which takes up oleate of lead and gaduin, and leaves undissolved the margarate of lead. The ethereal solution is dark brown. If it be decomposed by sulphuric acid, brown oleic acid is set free. The brown colour of this acid is owing to the presence of gaduin. To separate the latter, add excess of caustic soda to the oleic acid, by which oleate of soda is formed. This is insoluble in the excess of caustic soda. It is to be dissolved in alcohol, and the alcoholic solution cooled below 32° Fahr., by which the oleate of soda separates, leaving for the most part the gaduin in solution. By the addition of sulphuric acid, the gaduin is precipitated from its solution,

Gaduin is a brown substance which is soluble in alcohol, but is rendered insoluble by evaporating its solution to dryness. The alcoholic solution yields, on the addition of neutral acetate of lead, a copious precipitate, composed of $C_{35}H_{22}O$, PbO . If this lead salt be digested with carbonate of soda, it is decomposed, and a soda salt is obtained in solution, from which sulphuric acid precipitates a brown acid. This, when dried at 288° Fahr., was found to have the following composition, $C_{35}H_{23}O_9$.

Gaduin is colourless, tasteless, and of a dark brown colour. It is completely insoluble in water, but is for the most part soluble in both ether and alcohol. Its insoluble portion augments every time the solution is evaporated. When dry it is brittle and pulverizable. It is insoluble in both nitric and hydrochloric acids. In sulphuric acid it dissolves, and acquires a blood-red colour, but from this solution it is precipitated both by water and alkalies. It is soluble in alkalies. Diffused through water, and treated with chlorine, it becomes decolourized. In burning, yields an odour first of acetic acid, afterwards of cod-oil, and leaves behind a small quantity of ash.

The *insoluble modification of gaduin*, to which allusion has already been made, is blackish-brown, pulverizable, insoluble in water, alcohol, ether, and diluted sulphuric acid, but by concentrated sulphuric and hydrochloric acid is converted into a black powder, without freely dissolving: in hot nitric acid it gradually and completely dissolves. It dissolves in alkalies, forming a red-coloured solution. In burning, it evolves the odour of acetic acid, and leaves about 0.822 per cent. of ashes. When dried at 238° Fahr., its composition is $C_{39}H_{26}O_{12} = C_{35}H_{22}O_8 + C_4H_3O_3 + HO$; that is, gaduin ($C_{35}H_{22}O_8$, HO) combined with acetic acid ($C_4H_3O_3$). But De Jongh's formula scarcely agrees with his experimental result. He says that analysis gave him 7.04 per cent. of hydrogen, whereas his formula indicates about 7.3 per cent.

Berzelius states that, when he read De Jongh's account of gaduin, he was struck with the analogy of the reactions of this substance

with those of bilifulvic acid, and he tells us that he was disposed to think that gaduin is primitive bilifulvic acid, and that the reddish-brown substance, insoluble both in alcohol and water, which he (Berzelius) separated from bilifulvin by long and numerous operations, is only the insoluble modification of gaduin. This point, however, at present remains undetermined.

Gaduin is contained in all the three varieties of oil examined by De Jongh. At first it is yellow, but under the influence of atmospheric air it acquires a brown colour.

2. *Fatty acids; margaric and oleic acids.*—These acids, as obtained from cod-liver oil, do not appear to differ in their nature and composition from the same acids procured from other sources. De Jongh analysed them in the form of margarate and oleate of lead. The results were as follow :—

Margarate of lead	$C_{34} H_{33} O$, PbO.
Oleate of lead	$C_{44} H_{39} O_4$, PbO.

3. *Glycerine.*—This was obtained by saponifying cod-liver oil by caustic soda. The residual lye was decanted from the soda-soap, saturated with sulphuric acid, and the sulphate of soda separated by crystallization. The residual glycerine was compared with glycerine procured from olive-oil and lead, and found to be darker coloured. All these kinds of glycerine were decolorized by adding basic acetate of lead to the glycerine solution, though they again became coloured when submitted to evaporation.

4. *Bile constituents.*—When cod-liver oil is shaken with water, an emulsion is obtained, from which the oil slowly separates. The aqueous liquid becomes clear by filtration. That which had been obtained by shaking the brown oil with water was coloured and empyreumatic; but the other kinds of oil did not colour the water. The liquid invariably had a slightly acid re-action, and the oil which had been shaken with it was clearer, had a feebler odour, and re-acted less powerfully as an acid. By boiling the oils with water, the same results were obtained. By evaporation, the aqueous fluids from all the three kinds of oil yielded a reddish-brown extract, which, softened by heat, was slightly soluble in water, was more soluble in ether, and completely so in alcohol. Alkaline solutions dissolved it, and acids threw it down again in the form of a reddish-brown flocculent precipitate. The extracts had a peculiar odour and a bitterish taste. The quantities obtained from the different kinds of oil were as follow :—

	With cold water.		With hot water.
Pale oil.....	0.607 per cent. ...		0.513 per cent.
Clear brown oil	0.890 “ ...		0.849 “
Brown oil.....	1.288 “ ...		1.256 “

When successively treated with ether, alcohol, and dilute spirit, all these extracts yielded the same results.

By ether, a reddish-brown, transparent, glutinous extract was obtained, which melted by heat, stained paper, and had the odour and taste of bile. After some time, small crystals made their appearance in it. It was slightly soluble in water, but readily so in ether, as well as in alcohol. A solution of carbonate of ammonia being added to its ethereal solution caused the separation of the mixture into two layers, an upper turbid layer, which by evaporation yielded some drops of *olein*, some crystals of *margarin*, and a *brownish mass* which was identical with that procured by the evaporation of the lower layer. This brown mass had a bitter taste, was separated by water into a soluble and insoluble portion, and consisted of *fellinate* and *cholate of ammonia*.

The extract which had been exhausted by ether yielded to alcohol a blackish-brown, odourless, bitter, shining, hygroscopic mass, which dissolved with difficulty in water, and consisted of *biliverdin*, *bilifulvin*, and *bilifellinic acid*.

Dilute spirit removed from the residual extract a black shining substance, soluble in alkalies, concentrated sulphuric acid, and hot acetic acid, but insoluble in nitric and hydrochloric acids. From its alcoholic solution, baryta water and acetate of lead precipitated it of a brown colour. It left no residue by burning.

The residue of the aqueous extract, left after the action of the three above-mentioned solvents, contained an *organic substance* (whose nature has not been determined) and *inorganic salts*, in which chlorine, phosphoric and sulphuric acids, lime, magnesia, and soda were found, but no potash or iodine.

5. *Iodine, bromine, and chlorine*.—Considerable, though as I conceive unnecessary, importance has been given to the fact that cod-liver oil frequently or usually contains both iodine and bromine. To the presence of one or both of these substances has been ascribed the whole or part of the remedial efficacy of the oil. A little consideration, however, would be sufficient to prove that their therapeutical agency in the oil must, if any, be exceedingly small. The proportions in which they exist in the oil are inconstant, though in all cases very small. Moreover, beneficial effects have been produced by the use of the oil which neither iodine nor bromine are capable of producing.

Some chemists have failed to detect *iodine* in cod-liver oil. De Jongh says that it is present in every genuine oil, but that the only certain mode of detecting it is to saponify the oil, and carbonize the resulting soap. He confirms Stein's remark, that neither by immediately carbonizing the oil, nor by saponifying it, and then decomposing the soap by acids, can the iodine be detected. It follows, therefore, that iodine exists in the oil neither in the free state nor in that of metallic iodide, but probably in organic com-

bination—perhaps, as an iodic fatty acid. De Jongh determined the proportion of iodine by forming iodide of palladium; every 100 parts of anhydrous iodide of palladium was considered equivalent to 70.34 parts of free iodine.

The largest amount of iodine found in genuine oil is less than 0.05 per cent. If the amount obtained be larger than this, fraud may be suspected. It is said by Dr Martiny* that some dishonest druggists have introduced iodine into the oil for the purpose of augmenting its commercial value. Nay, it is stated that an artificial cod-liver oil has been made by combining iodine with common fish or train oils.

De Jongh detected *bromine* in the oil by Balard's process. The carbonized soap was digested with alcohol, and the alcholic extract treated with chlorine gas and ether. Its proportion was estimated in conjunction with that of chlorine, as the quantity was too small to admit of accurate separation.

The *chlorine* was determined by precipitating it as chloride of silver from the watery extract of the carbonized soap.

6. *Phosphoric and sulphuric acids.*—*Phosphorus.*—Dr. Jongh determined the presence and quantity of these ingredients in the following way: The oil was saponified by potash, and the soap thus obtained decomposed by hydrochloric acid, by which the fatty acids were separated. From the solution the phosphoric acid was precipitated by a nitrate of iron (whose proportions of oxide was known) and ammonia, and the sulphuric acid by means of nitrate of baryta.

In order to determine the presence and quantity of free phosphorus or sulphur, a given quantity of oil was decomposed by concentrated nitric acid, and the quantity of phosphoric and sulphuric acids in the oxidized liquid ascertained by the above-mentioned method. More phosphoric acid was procured from the oxidized than from the unoxidized liquid, and the proportion of phosphorus was calculated from the excess of acid.

7. *Acetic and butyric acids.*—De Jongh separated these volatile acids from cod-liver oil by adding sulphuric acid to the soda-soap, and distilling the liquid thus obtained. The distilled product had a peculiar odour. It was saturated with barytic water, and evaporated to dryness. One portion of the residue was insoluble in alcohol, the other was soluble. The insoluble salt was acetate of baryta with two equivalents of water ($=C_4 H_5 O_5, Ba O$); the soluble salt was butyrate of baryta. The soluble salt obtained

* *Naturgeschichte der für die Heilkunde wichtigen Thiere.* Darmstadt, 1847.

from the pale oil gave the formula $2 (C_8 H_6 O_3)$, Ba O, 6 HO ; that procured from the pale brown sort gave the formula $C_8 H_6 O_3$, Ba O, HO.

Rancid cod-liver oil emits an odour like common fish or train-oil, and we might, therefore, expect that phocenic acid would be a constituent of cod-liver oil. De Jongh did not detect it; but thinks that phocenic acid may perhaps be resolvable into acetic and butyric acids—a supposition somewhat improbable, seeing that phocenic acid contains considerably more carbon than either butyric or acetic acid. Berzelius observes, that the presence of acetic acid in cod-liver oil in a form which is not extractable by water is remarkable, because it leads to the supposition that it is contained in the form of a peculiar fat, which would be the acetate of lipule.

It will be unnecessary to enter into any details with respect to the other constituents of the oil.

The characters by which we judge of the genuineness, purity, and goodness of the oil are partly physical, partly chemical.

The physical characters which are usually employed are, principally, colour, odour, and flavour. The finest oil is that which is most devoid of colour, odour, and flavour. The oil as contained in the cells of the fresh liver is nearly colourless, and the brownish colour possessed by the ordinary cod-oil used by curriers is due to colouring matters derived from the decomposing hepatic tissues and fluids, or from the action of air on the oil. Chemical analysis lends no support to the opinion, at one time entertained, that the brown oil was superior, as a therapeutical agent, to the pale oil. Chemistry has not discovered any substances in the brown oil which could confer on it superior activity as a medicine. On the other hand, the disgusting odour and flavour, and nauseating qualities of the brown oil, preclude its repeated use. Moreover, there is reason to suspect that, if patients could conquer their aversion to it, its free use, like that of other rancid and empyreumatic fats, would disturb the digestive functions, and be attended with injurious effects.

Of the chemical characters which have been used to determine the genuineness of cod-liver oil, some have reference to the iodine, others to the gaduin or to the bile constituents. I have already stated that some fraudulent persons are said to have admixed iodine (either free iodine or iodide of potassium) with train oil to imitate cod-liver oil. The presence of this substance may be readily detected by adding a solution of starch and a few drops of sulphuric acid, by which the blue iodide of starch is produced; or the suspected oil may be shaken with alcohol, which abstracts the iodine.

But though we may thus readily prove that the suspected oil

contains no artificially added iodine, the iodine which is naturally contained in, and more intimately combined with the oil, may be frequently recognized by another process. Marchand* gives the following directions for detecting it: Saponify the oil with soda, carbonize the soap thus obtained, digest the coal in distilled water, add a drop of starch paste, and subject the mixture to the action of a voltaic battery, the positive pole being placed in contact with the starch paste, the negative pole with the solution. If iodine be present, the starch becomes blue. Marchand states, that by this test the iodine can be detected in the urine of a patient soon after he has taken the oil. This, however, is certainly not always correct, for I submitted the urine of a young gentleman, who for several weeks had taken with great benefit a table-spoonful of cod-liver oil thrice daily, to the action of a galvanic battery of fifty pairs of plates for several hours, without obtaining the slightest evidence of the presence of iodine.

Sulphuric acid has been employed as a test for cod-liver oil. If a drop of concentrated sulphuric acid be added to fresh cod-liver oil, the latter assumes a fine violet colour, which soon passes into yellowish or brownish-red. Some samples of oil produce at once the red colour, without the preliminary violet tint. Goble† who noticed this re-action in the case of oil of the liver of the ray, says, that oil which has been prepared by ebullition in water, does not possess this property, but yields with sulphuric acid a clear red colour. This, however, is an error, at least with respect to cod-liver oil. It has been erroneously supposed by some persons that this violet colour was due to the evolution of iodine by the action of the acid on an alkaline iodide contained in the oil. If that were the case, the presence of a little starch paste would be sufficient to convert the violet into an intense blue colour; which is not the case. The colouration, in fact, depends on the action of the sulphuric acid on some one or more organic constituents of the oil, and the following facts lead me to infer that it is in part due to the presence in the oil of one of the constituents of the bile.

It is well known that in 1844, Pettenkofer‡ pointed out a new test for bile. If to a liquid supposed to contain bile, about two-thirds of its volume of oil of vitriol be added, the liquid kept cool, a few drops of a solution of cane sugar (four or five parts of water to one of sugar) be added, and the mixture shaken up, a violet red colour is produced, provided bile be present. This test succeeds

* *Lehrbuch der Physiolog. Chemie.*

† *Journal de Pharmacie*, 3me sér., t. v, p. 308. 1844.

‡ *Ann. der Chemie und Pharmacie*, Bd. lii, s. 90, 1844; also Simon's *Chemistry*, translated by Dr. Day, vol. ii, p. 193.

very well if we dissolve a little extract of ox-bile in water, and test the solution with sugar and oil of vitriol. The colour developed agrees with that produced by the addition of oil of vitriol to cod-liver oil, which De Jongh has shewn contains the essential constituents of the bile.

Pettenkofer remarks, that the presence of a very great excess of chlorides will change the violet-red colour into a brownish-red. This fact is deserving of notice, because it may aid in accounting for the fact that some specimens of cod-liver oil strike a brownish-red, not a violet-red colour, with oil of vitriol.

Strecker* confirms Platner's observation that both cholic and paracholic acids produce the same colour with sugar and oil of vitriol as bile does; so that Pettenkofer's test doubtless acts on one or both of these acids. Now De Jongh has shewn that cholic acid is contained in cod-liver oil, and we have, therefore, good reason for believing that it is in part by the action of oil of vitriol on this acid that the violet-red colour is produced in cod-liver oil.

But it is well known that for the development of this colour in bile it is necessary to use, besides oil of vitriol, a third agent (sugar). Pettenkofer observes that for cane-sugar we may substitute grape-sugar or starch; in fact, any substance which can by the action of oil of vitriol be converted into grape-sugar. No such substance has hitherto been detected in cod-liver oil, and, therefore, it may be said the necessary ingredient to produce this characteristic re-action of oil of vitriol on cholic acid is wanting. Strecker has recently supplied the wanting link. In his valuable paper on ox-bile, to which I have already referred, he observes that acetic acid may be substituted for sugar. To the liquid supposed to contain bile add a few drops of acetic acid, and then concentrated sulphuric acid, when a magnificent purple-red colour is developed. If the quantity of bile be small, it may be necessary to use heat. Now, as cod-liver oil contains acetic acid, we have the requisite agent to enable the oil of vitriol to act on the cholic acid, and the development of the purple or violet-red colour is then readily accounted for.

I have already noticed the red colour produced by the action of oil of vitriol on gaduin (supposed by Berzelius to be derived from the bile). Here, then, is another source for the red colour caused by the action of sulphuric acid on cod-liver oil.

It follows, therefore, from what has been now stated, that oil of vitriol is a test for liver oils. It does not distinguish one liver oil from another, for it re-acts equally with the oil of the liver of the

* *Ann. der Chemie und Pharmacie*, Bd. lxxv, s. 15. 1848.

ray and with oil of the liver of the common cod. Neither does it distinguish good cod-liver oil from bad, for it produces its characteristic re-action both with common brown cod-oil, and with the finest and palest qualities. But it serves to distinguish oil procured from the liver, from oil obtained from other parts of the animal.

ABDOMINAL TUMOUR, WITH ASCITES.

THE following singular case of abdominal disease in a mare lately came under the observation of Messrs. Chalmers, V.S., Tarves, and Cuming, V.S., Ellon; and from the rarity of such a case in the horse, is considered deserving of being recorded.

A small black cart mare, aged ten, the property of, and bred by Mr. Skinner, Aquheedly, parish of Tarves, was observed, about the 10th of November last, to be out of her usual way: considerable depression and loathing of food, with slight enlargement of the abdomen, were the chief noticeable symptoms. She was ordered soft food and a dose of physic, with rest for a few days. No amendment following this, and the abdominal enlargement becoming greater, dropsy was suspected, and on the 20th she was carefully examined for the symptoms of this disease. The mouth was slightly hot and clammy—general expression of countenance languid—pulse 72, small and weak at the jaw, but the heart beating rather strongly and regular—ears and extremities cold—belly large, and fluctuation of liquid, by lateral pressure, perceptible—bowels confined—urine usual—appetite fastidious. Examination was made per rectum, and a large mass or tumour found adherent to the internal wall of the abdomen, in the left lumbar region, its upper border being about as high as the points of the transverse spines of the lumbar vertebra; while its lower border, which was irregular in outline, seemed to hang loose in the belly. The bulk of the tumour occupying the region of the side, its anterior edge could not be reached by the hand thus introduced, but the size was, apparently, about that of a human head, while its structure seemed dense and compact, with slight pulsation here and there on its surface. The presence of fluid in the abdomen was with certainty ascertained by its resistance to the hand, when introduced to the extent of the arm into the rectum. The diagnosis given was, that the dropsical effusion in the abdomen was in some way connected with peritoneal irritation, caused by the presence of the tumour, and the prognosis unfavourable. The only treatment attempted was a combination of tonic and diuretic medicine, with the intent of lessening the ascites and improving the general health. The animal, however,

got rapidly worse to the end of the month, and on the 1st of December, while being taken to exercise, fell with her head and shoulders down a declivity, where syncope shortly supervened, followed by death.

Post-mortem appearances.—On opening the abdomen, about fifteen or sixteen gallons of reddish liquid flowed out, having no ill smell nor any flaky matter in it, as is commonly seen in cases of peritoneal inflammation. The tumour was sought for, and found *in situ*, attached to the side and covered by a strong capsule of peritoneum, the irregular outline of its lower edge, already mentioned, being due to a number of small tumours adherent there, each by a pedicle of the same serous membrane. On detaching the mass, it was found to weigh 35 lbs. imperial, and on cutting it up, it presented two different kinds of structure internally: the one appearing, however, to be only a more advanced stage of the other. The outside portion, for about two inches in depth, consisted of brainy looking matter, (encephaloid substance of human pathologists), white on the cut surface, with here and there a faint reddish blush, or a few distinct red points, apparently the cut ends of bloodvessels, a few of which could be traced into it, from its serous covering. This substance gradually merged towards the centre of the tumour, into a sort of reddish grey fibrous matter, disposed in generally parallel flakes, not unlike fibrine *ill* prepared from blood, and containing between and among the flakes a considerable quantity of serum, resembling in smell and colour the fluid in the abdomen. The disposition of the bloodvessels upon the surface, and the semi-organised condition of the centre of the tumour, evidently shewed that it must have been nourished by a diseased secretion from the peritoneal surface, upon the external aspect of which its accretion had commenced. And that this membrane had enlarged with the growth of the encephaloid matter to its ultimate enormous size, while, after a certain stage of its growth, the matter in the centre had begun to undergo a process of disorganisation. Still, however, so long as the serous envelope remained entire no evil seemed to arise from its presence.

On examining still farther the abdomen, the omentum, and peritoneal covering of the kidneys, liver, ribs, and diaphragm, were found studded with growths similarly disposed, though of smaller size, varying from that of a pea or marble to that of an apple or small turnip; and their entire substance being brain-like matter confined in a capsule and attached by a pedicle of peritoneum. Still there was no appearance of irritation in any of these to account for the ascites and other causes of death. But to the supraposterior part of the diaphragm adhered a mass of fibrous fragments, like matter of the same structure as already described, occu-

pying the centre of the large tumour, and hanging by the ends of the fibres from the serous membrane, as if a tumour of still greater size, perhaps 60 lbs. or 100 lbs. in weight, had burst its envelope and its liquid contents become extravastated into the cavity of the abdomen, forming the dropsical distention which caused death, while the more tenacious fibrous portion remained attached to the surface from which it had been produced. This, at least, was the only ostensible cause that could be seen for the dropsical effusion; and absence of any irritation or inflammatory traces on any of the serous surfaces of the contents of the abdomen, or in the effused fluid itself, favours the conclusion.

The whole weight of the tumourous matter, when dissected clear of the viscera, amounted to 138 lbs., which, added to at least 150 lbs., or 160 lbs. of liquid, makes nearly 300 lbs. diseased matter in the cavity of the abdomen, and the production of the serous membrane of that cavity. All the viscera of the abdomen were sound and healthy when the tumourous matter was removed from their surfaces; and as it was evident, as well from the known nature of the production as from the way in which the peritoneum had *grown* to accommodate its contents, that the disease had been of slow and gradual development, the wonder is that the powers of the animal enabled it to carry on its work for such a length of time, and under such conditions.

Should any of the veterinary readers of this have met with similar disease, we should feel obliged by having their experience upon it; as, so far as our reading goes, it has never before been described as occurring in the horse.

Scottish Farmer.

THE VETERINARIAN, NOVEMBER 1, 1849.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

FROM the fact of our national statute registers growing more and more voluminous as generation succeeds generation, not more from the alteration or amplification of old laws than from the creation of new ones, it would appear that we poor frail mortals, while we are multiplying at a fearful rate, year after year, in our

numbers, continue from age to age growing more and more licentious, more and more in need of coercion and restraint. Is this because, as we advance in civilization and refinement, and our wants, real or imaginary, become augmented, so our propensities, naturally bad, grow worse? or is it that an extended and polished education sharpens, or, as some say, *morbifies*, our senses and susceptibilities to that degree, that, what our forefathers regarded as harmless or innocent, we pronounce to be inhuman and cruel? In days of old there existed no such laws as "The Prevention of Cruelty to Animals' Bill"—of which we this month publish an "Abstract:" what is now called *cruelty* then passed as *sport* or *diversion*. Every man preserved the right Nature gave him, to do as he liked with his own. And nothing short of the abuse of such natural license could ever have deprived him of it. Inheriting his fondness for the chase from his patriarchal ancestor, Nimrod, man pursues wild animals for sport; and with like diversion, or for the purpose of ascertaining and propagating the most elegant and useful of their species, he, in a state of domestication, institutes races and other feats of competition between them; but to set animals fighting with each other for mere mastery, or to spur them to such trials of competition as answer no useful end, while they put life and limb in jeopardy, is, assuredly, wanton barbarity.

These seem to be the only *general* principles we have to guide us in legislating on such a subject as "cruelty to animals." To define what cruelty is—what it means—what is to be interpreted as "cruelty," and what is not, has evidently puzzled the framers of the bill in question. What, therefore, have our legislators done? Why, they have acted as doctors do when they have a disease to treat whose nature they do not understand. They have prescribed empirically—have treated *symptoms* as they arose to their view, leaving the thorn still in the flesh. Remedies for cruelty are as puzzling to discover as remedies for cholera; and the former becomes more perplexing to disentangle and prescribe for from the circumstance of its existence, unlike that of cholera, being subject to doubt or dispute. In order that on so momentous as well as mysterious a question we may resort to the most learned, if not the most experienced authorities, let us see what our "Lords" and "Commons" say about it.

In the House of Lords.

Lord Campbell objected to the minute regulations contained in the bill against dog-carts, which would almost annihilate the use of those animals in carriages. The bill declared that no dog-carts should be used unless they were registered, and, if it appeared that any excessive load were placed on a dog-cart, the owners were to be liable to a severe penalty. No person whatever was to be allowed to ride in carts drawn by dogs, and he thought it hard that a poor wretch deprived of his limbs could not be drawn about by a docile animal that he had trained for the purpose. He (*Lord Campbell*) had seen his own children ride in a dog-cart with great delight. (*A laugh*). All these regulations were wholly unnecessary to prevent cruelty to dogs, because the bill contained a general clause, that if cruelty were exercised to any animal the owner should be amenable to the law.

The Duke of Beaufort was quite willing that the bill should be amended to meet the views of the noble and learned lord.

The Earl of Minto felt a general objection to this species of legislation, which interfered with the cruelties of the poor, and left the cruelties of the rich untouched. The bill was full of restrictions and penalties, and the house had not heard a word of observation to shew that such a measure was called for. Did the noble Duke never see a very heavy man ride a very small horse? (*A laugh*). If the noble duke had never, when out with his own hounds, seen a man urge his horse beyond his strength, he had been more fortunate than himself (*the Earl of Minto*), for he had seen such a thing a hundred times. On what principle should cruelties of this kind be left unpunished by the bill, and the cruelties committed by the lower classes be made the subject of legislation?

The Duke of Beaufort.—The bill contained a general clause which would meet cases of cruelty to animals by whomsoever committed.

The Lord Chancellor here put the question, and declared the second reading of the bill carried.

The Earl of Redesdale was understood to say that he did not approve of this kind of legislation, directed against the amusements or sports of the lower classes. The legislature had put down cock-fighting; but there was nothing cruel in cock-fighting where the birds fought with their own weapons, because they were fairly weighed against each other. (*A laugh*.)

The Bishop of Oxford would support the bill, because it would meet a real evil. He should be glad to see a bill brought in to put down the driving of dogs in dog-carts altogether, because the soft foot of the dog was not fitted to drag heavy loads over hard roads.

Earl Grey believed that cruelty was one of those vices which were not proper subjects of legislation, but had better be left to the improvements that were being effected by other means in the temper and character of the people. The kind of legislation contemplated by this bill did more harm than good, because the provisions were to be carried into effect by the odious machinery of public informers. Allusion had been made to cock-fighting; but look to the greater cruelties committed in steeple-chasing. (*Cheers*). If the house divided he would vote against this bill.

The Earl of Malmesbury begged to inform the right rev. prelate, that no dogs were so healthy as those that were trotted up and down a hard road.

The Bishop of Oxford.—But not if they had to drag a heavy weight. It was well known that, while all other animals at times refused to draw a load the dog never did, however unequal it might be to his strength. Hydrophobia was not unfrequently caused by this means.

The Earl of Malmesbury was the more inclined to object to this interference because there were hundreds of persons who gained a livelihood by carrying fish, shoes, and other articles about the country by means of dogs, and it would be unwise to restrain them from so doing, unless the means whereby they gained their living were shocking to the public and demoralizing to themselves. (*Hear*).

The *Duke of Argyll* supported the bill, and reminded his noble friend (*Earl Grey*) that, to be consistent, he ought to move the repeal of many laws for the prevention of cruelty which were now on the statute-book. No line could be drawn defining exactly what was cruelty; but he agreed with his noble friend in denouncing the cruelty of steeple-chasing [*hear, hear!*]. He would support this bill, because it would reach such cases, one clause in the bill providing that *if any person should drive or urge a beast manifestly above its strength he should be liable to a penalty*. In Scotland dogs were never harnessed to carriages, and he could not, therefore, speak to the cruelty of this mode of conveyance; but he agreed with the right reverend prelate, that the soft foot of the dog was not adapted for travelling along hard roads, and he should be glad to see the practice put down altogether.

In the House of Commons.

The *Marquis of Worcester* moved the second reading of the above bill. It was not, as was generally believed, an entirely new bill, but merely an improvement on the act of 1835; the main features being that it contained provisions to punish the owners

instead of the servants in cases where horses or other animals were over-driven, and to increase the fines from 40s. to £5.

Mr. Hume said no one was more anxious than himself to prevent unnecessary cruelty to animals or men; but he thought multiplicity of legislation might defeat the object in view. He thought it should be clearly proved that the existing law was inadequate to punish those who offended against it.

Sir G. Grey observed that the bill was an amendment on the old one only, and could not be regarded as an innovation.

Mr. Henry inquired if there was any clause to prevent steeple chasing? [*hear!*]

Mr. Mackinnon replied, not specifically; but those who overdrove animals could be punished.

Mr. Browne hoped the bill would be extended to Scotland and Ireland.

Mr. Home Drummond, although he approved of the principle of the bill, would oppose its extension to Scotland.

The bill was then read a second time, and ordered to be committed on that day week.

From this report it is evident that three important questions arose in the course of the discussion on the subject: one was—raised by Earl Grey—whether cruelty was “a proper subject for legislation;” whether it had better not “be left to the improvements that were being effected by other means in the temper and character of the people?” The other questions were, whether the bill went far enough or too far; whether other “sports,” such as “steeple chasing” were not cruelties; and whether the dog-cart really amounted to a cruelty? All which question, and doubt, and contrariety of opinion, tends to lay bare the insubstantiality of the basis upon which the bill is founded; and is of itself enough to make us hesitate before we subscribe to such loose kind of legislation. There is manifestly something rotten either in the *principle* or the *framing* of the bill. We may not just now be prepared to say what this is; but we are prepared to say, and feel ourselves warranted in the assertion, that it would have been better to have deferred the consideration of the bill “to that day six months,” rather than to have passed it under such dubious and conflicting opinions.

MISCELLANEA.

NATURAL HISTORY OF THE HORSE.

It is chiefly to the great deserts of Tartary and Siberia, that we are to look for the wild stock from which our invaluable domestic originally sprang. There, ranging together in large troops, they exhibit very surprising traits of sagacity and vigilance. Whilst they feed, they generally station one of their party at a little distance, for the purpose of giving notice of the approach of danger. It is almost impossible to entrap them; and, when pursued, their swiftness of foot is such that it is not without great difficulty they can be overtaken. It is to Arabia that we have been principally indebted for the excellence of our breed of horses. In this wild and thinly populated country, the very existence of the owner sometimes depends upon the powers of his horse, and, consequently, the most minute and indefatigable attention is paid to the perfecting of the breed. And it is chiefly in consequence of this that the race is able to sustain infinitely greater fatigue and abstinence than the horses of any other country. A horse in that country, which cannot support itself for three days under continued bodily exertion is accounted of little value. If horses be well treated, and have proper care taken of them, it is said they will sometimes live to the great age of fifty years; but during part of this time they are generally so decrepid as to perform no services whatever to their owner. The flesh of the horse is eaten in several parts of Asia. The Calmuc Tartars live almost wholly upon it: they likewise drink the milk of the mare, and make of it both butter and cheese.

In the Ottoman empire the grand vizier is always preceded by standards formed of horse-tails, each surrounded by a gilded ball. This became the military ensign of the Ottomans from the following singular circumstance:—One of their generals having had great difficulty in rallying his troops, who had been so unfortunate as to lose all their standards, thought, in the emergency of the occasion, of this device; to cut off the tail of one of the horses, and erect it on the point of a spear. The soldiers flocked to it, gallantly charged their enemy, and their exertions were at last crowned with victory.

Bingley's Natural History.

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CASE OF CHOLERA IN THE DOG,
WITH COMMUNICATION OF THE DISEASE TO ITS MISTRESS AND
ATTENDANT.

St. Ives, Cornwall, October 24, 1849.

Sir,—I BEG to transmit you the following case, which is one of singularity, communicated to me by G. W. Bevan, Esq., surgeon, of this town. If you think it is worthy a place in THE VETERINARIAN, you are at liberty to publish it. It may be the means of putting veterinarians on their guard, when attending such cases; while it serves to prove that diseases of a malignant and dangerous character are communicable from the brute to man.

Yours, respectfully,

JOHN C. QUICK, V.S.

ON Friday, September 14th, a black and tan terrier dog, belonging to a poor woman of this town, with whom he was a great pet, was taken suddenly ill, purging and vomiting. In a very few hours the alvine evacuations, as well as the fluid ejected from the stomach, assumed the rice-water character of cholera discharges. All the visible mucous membranes assumed quite a leaden aspect, and the dog died on the following day, violently cramped, after an illness of about twenty-four hours, during which time the woman had the dog on her lap, wrapped in flannel, and occasionally put in a warm bath, though of no avail. About 3 A.M. on the 16th, the woman herself was taken ill, and by 7 A.M. was in a state of collapse, at which time the surgeon was called, who administered the usual remedies, but without effect; as she died at 4 o'clock on the morning of the 18th, having contracted the disease from her canine companion.

THE ENMITY OF GROOMS TOWARDS VETERINARY SURGEONS.

Sir,—ON taking up THE VETERINARIAN for the last month, I find somewhat of an *exposé* of the practices of grooms, bearing upon their propensities for discount allowances. The fact of this it would be preposterous to deny, as many of them possess this quality in no small degree. Were it to end in this drifting upon the pocket alone, it might be considered rather a happy termination. Many veterinary practitioners will aver, I have no doubt, they have experienced as well from such grooms cunning in wielding malevolence and slanderous imputations, and have detected them in malicious designs concocted for their selfish interests. Of all the host of enemies a veterinary surgeon has to encounter, a perfidious groom is the worst,—a devil clothed in scarlet hypocrisy. Neither the bottle nor the pocket can satisfy the voracious appetite of such a demon. He will be content with nothing less than sinking the character of professional individuals to the lowest possible ebb, and hunting down their interests by all and every possible art he can devise; inventing schemes against both the individual whom he hates, and the patient he may happen to have in his master's stable. The tricks he can play upon either sick or lame are far more than I can enumerate, or than imagination would guide me to guess at. In many instances, I have no doubt, could truth be elicited, from the opposition, trickery, and deception practised by many of these artful dealers in mischief, serious consequences are begotten, protracting recovery, even producing death, and so becoming drawbacks upon the medical attendants, charged against them to the employer. Also at the public inn where he may resort, and where he generally displays and figures off in the most conspicuous style as Mr. So and So's groom, a most officious guest, knowing all sorts of news, his powers and abilities for horse knowledge being foremost, he soon begins to hold forth; a staring gaze is fixed upon him by his companions in beer and smoke, and every word is quickly swallowed. This is an eventful time for Mr. Vet., be he who he may. He is quickly turned upon as having attended one of master's horses—done no good—knows nothing—full of wrongs; and is either saddled as being one of the biggest fools that ever entered a stable, or something worse. The braggart groom goes on to state *he* did so and so, and put all right quickly. Then he heaps upon the absent veterinarian a multitude of lies and reproaches, scoffing and howling like a jackall, yet more terribly, to the destruction and ultimate ruin of an innocent character, which

is his decided aim. I here could relate an instance of such conduct, which took place only a very short time ago, in corroboration of this, where a veterinary surgeon of eminence in this part of Yorkshire, a gentleman who has the pleasure of sitting occasionally at the Council's meetings, a practitioner of long standing, and second to none for his abilities, and who, from my personal acquaintance with him, would not do the least wrong to any man, was attacked and backbitten by one of these scurrilous knaves; and it would have been a matter of surprise had he escaped unimpeached from the breath of this vampire; yet I am glad to state that the poisonous pest, although vomited from the mouth of a cesspool of iniquity, has not produced any apparent ill effects; neither do I think it rendered the party in question much, if at all, choleric, he being of a mild temper, which is the best in a storm. This very same artful dodger, not more than a month ago, called upon me, informing me that he had recommended my assistance to a mare belonging to a neighbouring farmer. I naturally inquired what was the matter, suspecting some fetch or design. Squeezing his hands together, and rubbing them up, shewing no little pretended affability, he replied, he did not know, but had named me out of friendship. On going over I found that this fellow, whom I think is no less than brother to his Satanic majesty, had told me a bundle of the most infamous lies. He himself had been in attendance upon the case from two to three months, and had been treating the mare for inflammation of the lungs. On examining the poor emaciated and long suffering creature, I found extensive thickening upon the left inferior maxillary bone (the cheek part) spreading underneath and extending to the throat. This swelling was said by the cunning fellow to be the sequel of inflammation of the lungs, and that it was to "break," as he had expressed it, when all would be right. This "breaking" I found to be a broken, or rather splintered jaw, with four of the molar teeth driven pretty nigh out of their sockets; two of them, indeed, so much so that they lay partly upon the tongue, and I readily removed them with my fingers. The extent of such gross ignorance may be conceived readily, but the torture and sufferings of this poor animal can only be very distantly imagined. This is but one instance, amongst hundreds of others, of cruelty, torture, and maltreatment, which call loudly for legislative means to stop such intolerable abuses.

To the intrusions of these knowing grooms upon the rights of veterinary surgeons there is no end, nor is there likely to be. It is a matter of daily occurrence to find them insinuating themselves into every hole and corner where they can lay hold of either sick or lame, and not unfrequently asking the owners to take them out of our hands. I could name several instances of this kind, and

some in which they have prevailed. And this is too frequently done to the injury of the regular educated attendant, who neither knows for why or for what his services are at an end; for it rarely happens that an explanation will be given, although solicited ever so kindly.

Not more than five miles from my residence there is another of these extraordinary individuals, who, I suppose, must have come into possession of a diploma at Southwell gaol, where he was imprisoned for a felony (for I don't know any other college he was at). Immediately he got to daylight and liberty, he posted up a large sign-board, containing his name, dignified underneath by the words "veterinary surgeon!"

It is a pity that, under such existing enormities, there is no remedy. Persons brought up to the profession at no small cost, anxious and industrious, should not be left entirely without means of protection against these every-day filchers, the law having no power, that I am aware of: nor is there any other source or means which can deter them from these illegal acts of plunder. If such there be, I should be glad to be informed, and would esteem the information a favour.

I am, Sir, yours very obediently,

ONE WHO WISHES TO SEE THE VETERINARY
PROFESSION BETTER VINDICATED FROM
THESE GRIEVANCES.

W. Percivall, Esq.,
Editor of "The Veterinarian."
Oct. 26, 1849.

A NEEDLE WITHIN THE THORAX OF A COW, CAUSING ABSCESS, PLEURO-PNEUMONIA, AND DEATH.

By ALEXANDER ROBINSON, *Veterinary Surgeon.*

To the Editor of "The Veterinarian."

Sir,—I BEG to lay before you a case which came professionally under my notice in June last, and which may prove interesting to the profession generally.

It was that of a cow having a large abscess in her right lung, which must have existed for some length of time previously to my being sent for. She was the property of a cow-feeder in town, who purchased her from a dealer in the month of March last, at which

time he observed she had a cough; but not thinking it more than a slight cold, there was no attention paid to her so long as she did not refuse her food or decrease in milk. It was not until this took place that I was sent for.

The following symptoms presented themselves. On my arrival at the cow-house I found her at every expiration making a sort of half grunt, half moan—breathing very laboriously—an immense quantity of saliva coming from her mouth—her breath had a very offensive smell—mouth and extremities cold—pulse 100 per minute. She was standing with her elbows out and toes turned in, no doubt to admit of the freer expansion of the chest. The shoulders assumed a strange appearance, probably caused by the throwing out of the legs, the muscles being put on the stretch, and, from not being supplied with proper nutritious blood, appearing atrophied. On auscultation I could not detect any respiratory murmur whatever in any part of the right lung, and only to a small extent in the left. The bowels were rather costive, although some castor oil, combined with Castile soap, had been administered. This latter symptom appeared to me rather strange, as I considered the case one of pleuro-pneumonia, and that in the last stage, viz. grey hepatization, which generally exhibits diarrhœa or dysentery.

Considering the case a hopeless one, I resolved not to treat it; but the owner being very desirous that I should do something, I consented, and administered a simple laxative combined with a little stimulant, and three quart bottles of gruel sweetened with treacle; more with the view of gratifying him than with any hope of relieving the patient. I visited her the next day. The medicine had operated slightly. I, with the same intention as before, ordered her plenty of gruel; but, as near as I can recollect, she died the following day.

I had an opportunity of making a post-mortem examination. The bowels seemed to be quite normal; in fact, all the abdominal viscera appeared to be in a perfect state of health, with the exception of the third stomach, and that was considerably impacted with food between its laminæ. But in opening the chest I found a great mass of disease. The right lung was entirely solid, with the exception of a large abscess in it, which may have contained a pint and a half of a pale yellowish matter, having a very offensive smell, somewhat similar to that of her breath. The lung was adhering to the parietes of the chest. With the intention of removing it, I passed my scalpel between the two pleuræ. Finding some difficulty in getting the knife down, I withdrew it, and dissected carefully in order to discover the cause of obstruction. I found a cartilaginous tumour, about the diameter of a pigeon's egg, extending from the pleuro-costalis for a small distance into the

substance of the lung. In cutting into this tumour I found a needle in its centre, with its point sticking in one of the ribs. In addition to this abscess, the lung was greatly tuberculous throughout its parenchymatous structure. The left lung also was considerably diseased, and the mucous membrane of the trachea was of a greenish hue.

There is no improbability in the supposition that the needle had its seat in the lung previous to the day of sale, from the fact of the cow having a cough from that period, and gradually getting worse until she died. I believe the needle was the whole and sole cause of the disease; first causing inflammation, and that progressing through the different stages until it ended in death.

The query is, How did the needle get there? There can be little doubt that the cow must have swallowed it in the act of feeding, and that it made its way through the esophagus as it passes through the chest, towards the right lung, where it took up its seat.

I am, Sir, yours respectfully.

Greenock, 8th Nov. 1849.

TETANUS ARISING FROM CASTRATION—A LEGAL QUESTION.

By JAMES K. LORD, *M.R.C.V.S., Tavistock.*

ON Friday morning, the 19th of October, 1849, I was requested to proceed at once to see a horse that was very ill, about four miles from my residence. On inquiring of the person who came, what he fancied was the matter with the horse, I received the usual answer, "*Violent inflammation.*" This same inflammation seems to assume, in their minds, the shape of some *Bogey*, or evil spirit, that, by some means, obtains an entrance into a poor quadruped, and there obstinately remains, until, by forcible means, he is either killed or bolted; for it is a great secret, to *kill* inflammation, or, as we say in Devonshire, to "*dra' 'em out.*" But to go on with my case. I at once started, and on arriving at the stable, immediately saw that it was a case of *tetanus*, and that of no ordinary degree. I cannot furnish a better illustration of the poor animal's appearance, than by comparing him to one of those wooden horses, with four straight legs, which children use as toys. He was standing just as stiff and rigid; every muscle of volition seemed to be in a state of spasm. The neck extended and fixed, as though it was marble. The eyes anxious, and telling, in lan-

guage too true to be misunderstood, the intensity of his suffering. On the least noise, or the slightest approach towards him, the membrana nictitans was shot over the eye as if by magic. The jaws were so tightly fixed, that, with all the force I could exert, I was unable to get a thin coin between the incisor teeth—a constant flow of saliva came from each corner of the mouth—nostrils widely dilated—respiration short, and fearfully quick—the heart beating tumultuously—pulse about 90, but evidencing congestion—the body was bedewed with a profuse sweat—indeed, altogether, the horse presented one of the most pitiable objects of suffering I can recollect beholding.

Such I found him, and now for the cause and the treatment.

I found, on inquiry, that the horse had been castrated about fourteen days since. Some considerable swelling still remained, about the sheath and under the abdomen. He had been purchased of a dealer about a week previous to my seeing him, with a warranty that was to extend to a fortnight: of this I shall hereafter speak. It was plainly a case of acute traumatic tetanus, arising from the operation of castration.

I at once told the owner that the horse would die, and that I entertained not the shadow of a hope for him. I also advised him to send a note to the dealer of whom he bought the horse, and tell him my opinion. This was done at once.

I bled him until his pulse became softer, and blistered him from head to tail. Any attempts to foment the scrotum, or even to touch him, brought on such spasms, and rendered him so furious, that it was unsafe to go near him, lest he should fall on one; and to give any thing by the mouth was a perfect impossibility. I removed, but with great difficulty, some hard fæces from the rectum, and gave a tobacco smoke enema. I then ordered him to be kept quiet until I saw him again. This was about eleven o'clock, A.M. I saw him again about five o'clock, P.M., in company with my brother. He was rather worse; the respirations were quicker, and the heart literally bounding. Query: Was this not through the diaphragm being implicated in the spasm?

What was to be done? "Desperate diseases require," they say, "desperate remedies." You could administer nothing in the shape of medicine, and I had already tried blistering. *Chloroform* suggested itself as the only chance, and I determined on trying it. I had plenty of straw laid down, to avoid the risk of his being injured by falling. I then put a clean sponge on the nostril, to let him breathe through that first. But the very act of applying it produced spasm, and he reeled and fell. When down, he was perfectly helpless; for so stiff was every part, that unless he were

raised by main strength, and put flat upon his four feet, he could neither get up nor move. I tied the sponge upon the nostril, and closed the other with my hand, and as he continued to breathe, I poured chloroform upon the sponge. About three ounces were thus used, but without any appreciable effect. It neither produced stupor nor relaxed the spasm in the slightest degree; neither did it alter the respirations, or increase or diminish the pulse. Being a heavy animal, and a perfectly dead weight to lift, it was more than we could accomplish to raise him up; so I left him for the night, down, and warmly clothed. I saw him again early in the morning, but sadly changed. "His quivering fibres speak his inward pains;" and every symptom told, but too truly, that death had laid his iron grasp upon him. A cold sweat bedewed the whole surface of his body; his respiration was quick, weak, and fluttering—pulse indistinct at the jaw—the eye glassy and fixed, so different from the almost unnatural brightness that it had a few short hours before. At intervals of two or three minutes a violent spasm would come on, and then he would groan most piteously. That he could linger much longer in this state of suffering was quite beyond doubt; and as the purchaser wished him to be put out of pain, I consented that he should be destroyed. This was at once done, and I immediately made a

Post-mortem Examination.—The scrotal wounds were both closed; but the end of each cord from which the testicle had been removed was black; indeed, almost approaching to a state of gangrene. Abdominal viscera healthy. The lungs terribly congested; no doubt, the immediate cause of approaching death. Heart filled with black, coagulated blood. The brain was so much injured by the blow in killing that I could not examine it, and the spinal cord I had not time to examine. He was exceedingly fat, five years old, of the cart breed, and bred in France: iron-grey in colour.

Remarks.—So much for a hasty recital of the most rapid and acute case of tetanus I ever saw. That it was traumatic, and arose from the previous operation, I, in my humble opinion, feel perfectly certain: the horse never shewed any previous illness, but fed well up to Thursday morning, when he was first observed to be a little off his feed, though no notice was taken of it. The following day he was in the state I have previously described.

Why it was that chloroform had no influence whatever in this case I must leave others to theorise upon: I confess I am at a loss for a reason. That it was good, I am fully convinced; and that he breathed it I feel equally certain.

This horse was purchased about a week before the appearance of tetanus, as I have before said, of a dealer, being castrated only

a week previous to purchase. The dealer agreed to "make him good, should any thing occur resulting from the operation, for a fortnight from the time of purchase."

Now, I contend that, in law and equity, he, the dealer, was bound to make good the horse to the purchaser; but the dealer thought it was worth a scuffle, though honour and breach of contract were sacrificed in its accomplishment.

First, he stuck to it, that the "lock jaw" did not arise from the operation. Secondly, that the horse was greatly injured by the use of chloroform. And, lastly, that, had he not been destroyed, there was a good chance of recovery. Yet, after all these pretexts to evade a just debt, he voluntarily agrees to refund half the money. This the purchaser consents to take, rather than trust to "the glorious uncertainty of the law."

I regret that I was thus prevented from proving publicly what I have asserted, viz. that it was a case of traumatic tetanus. I think no greater proof was required to shew that the purchaser was justly entitled to what he claimed, and that the seller knew it, than the voluntary payment of half the money. If half was due, why, surely, the whole was. And I feel most firmly assured that, had the case gone to trial, the verdict would have been for the plaintiff.

Now, a slight analysis of each objection will shew how badly they are able to bear the test of examination.

First, That the tetanus did not arise from the operation. Almost every case of tetanus I can find recorded is traumatic in its origin; i. e. arising from mechanical injury. It does not appear to be of the slightest consequence in respect to the extent of a wound; whether it be a pricked foot, a docked tail, or a spermatic cord from which a testicle has been removed: tetanus has followed all these. It has resulted from a cut beneath the eyes with a whip, and it has even been occasioned by a saddle-gall. Indeed, there seems to be hardly a mechanical injury of any sort from which tetanus may not be anticipated. If a horse is brought to an infirmary with tetanus, or if called to see a case, the first inquiry and examination is for a wound; and it rarely happens that some injury or abrasion is not discovered.

Now, can there be, I ask, on the mind of the most prejudiced, a doubt that the wounds resulting from castration were the cause of tetanus? The fact of both cords being in such an unhealthy state makes the case ten times more free from doubt. What could it arise from? All the viscera were healthy. The lungs certainly were terribly congested; but that was a *consequence*; there was no previous illness, no change of diet, no exposure to wet or cold;

for he was kept in a loose box, and carefully managed. In fact, no assignable reason whatever existed but the operation.

Secondly, That the horse was injured from the use of chloroform. Unfortunately, it had not the slightest appreciable effect. It neither altered the breathing nor the pulse: nor produced the slightest stupor. Had warm water been poured upon the sponge instead of chloroform, it would have proved just as effectual. This my brother's evidence, and a dozen more who were standing round, would readily prove it: even if it had acted so powerfully as to at once terminate the animal's life, I contend that in extreme cases, when there is hardly a shadow of hope, a medical man is quite justified in using any remedy that may suggest itself as affording a chance of benefit. Endless reasons, if needed, might be cited to shew how trivial and utterly groundless such an objection really is.

Thirdly, That I had no right to kill the horse. That I erred from misjudging the man I had to do with I readily admit; but that I was wrong in doing so, either legally or on the score of humanity, I as firmly deny, when Mr. — —, the dealer, knew, the same morning on which the horse was observed to be ill, both from the purchaser's note and my own lips, that I was attending the horse, and that the horse was considered to be his property, and that I had not the shadow of hope for his life, is it not a just inference to conclude, that if he had thought me incompetent to treat the animal, or objected to my doing with it just what I deemed right, he would then have said so, or sent a more competent person? His not doing so implied satisfaction and trust; and left the case in my hands, to act with it as I thought best. Thence I had a right (and had I not exercised that right I should have been culpable) to use any and all remedies that held out a chance of alleviation; and when all means failed to assuage pain and suffering, and when, at most, a few short hours must have terminated the poor animal's frightful agonies—which the congested state of lung was quite sufficient to prove—was it not in such a case just as much a veterinary surgeon's duty to have an end put to such frightful torture as it was to use his skill and talent to mitigate suffering or to check the progress of disease? I contend it was; and I firmly believe, no twelve reasonable men could have thought otherwise.

It has taught me a lesson of caution I shall not readily forget—What trivial objections may be raised, without being founded either on truth or honour, to evade the payment of a just demand? And character and reputation, when a few pounds are to be gained or saved, are handled as lightly as the wind wafts the thistle down.

It is now past and settled; and the conscience of each man

concerned can best tell him with what charity he has acted towards his fellow man. I deemed it an important case, and as such have laid it before your readers simply as it is. I did all that my mind suggested as most likely to mitigate pain and check the progress of the malady. These all failing, humanity bade me end lingering and hopeless torture : if I erred it was my failing and not my fault.

SUPPOSED CASES OF EPILEPSY IN HORSES.

By W. Cox, M.R.C.V.S., Ashbourne.

MEDICAL men extensively engaged in practice are sure to meet occasionally with cases of more than ordinary interest, assuming types and complications very interesting to the scientific inquirer.

The following case is full of interest to the parties concerned, and perhaps it may not be altogether devoid of it to your readers.

On the 11th of May last, Mrs. Beeson, of Hollington, had a mare taken ill, with what was considered to be an attack of gripes ; and some ol. tereb. was administered. No relief being obtained, Mr. Pakeman, V.S., of Sutton, was sent for. This gentleman considered it a case of constipation, and treated it as such, giving purging medicine, clysters, &c. : she was likewise bled. Mr. Pakeman being exceedingly busy at the time, he requested Mrs. Beeson to send for me, that the mare might not be neglected. I arrived early on the 12th.

Symptoms.—When I first entered the stable I found her down, lying in the natural position, apparently free from pain. The pulse was 42 per minute, and regular. The skin, ears, legs, &c., were of a natural temperature. The membranes were injected. The breathing was tranquil. After standing and watching her for at least ten minutes, I raised her, when she stood another ten minutes, apparently free from pain.

Mr. Pakeman having by this time arrived, we offered her some hay, which she ate with avidity ; after which she drank a gallon of warm gruel, and began again eating hay. We left her, both believing she was convalescent. No sooner, however, had we left the stable-door, when, hearing a noise, we returned, and found the mare down, and dying ; and in less than three minutes she was dead.

My first impression was, that she had fallen with her head against the wall ; but this was not the case, as she was seen to have fallen by several struggles.

I remarked to Mr. Pakeman at the time, that she appeared like one dying in an epileptic fit.

We had the mare drawn out of the stable, and made on the spot a post-mortem examination.

I first removed the muscles of the abdomen, and the ribs on one side of the thorax, so that all the viscera might be examined *in situ*. The contents of the chest were perfectly healthy; and so were all the organs in the abdomen. The fæcal mass was, all of it, in a pultaceous state; it was, however, apparent there had been obstruction, and where the seat of it had been. This was in the ileum, a little before it terminates in the cæcum (an unusual place), the latter being a little dilated, with its mucous membrane slightly inflamed. The brain was likewise examined; but no abnormal appearance or extra fulness of the vessels could be detected.

This mare belonged to Mrs. Beeson's son, who resides near Derby. His mother having sent him word that his mare was ill, he arrived just at the moment we had finished the post-mortem examination, bringing with him Mr. Atherstone, V.S., Derby. This gentleman, after examining all the viscera of the mare, was unable to account for her death.

Remarks.—It is my opinion that this mare died in an epileptic fit: obstruction of the bowels being the predisposing cause, and worms the exciting one; for she was very full of them—bots, teres, and ascarides. She had been without food and water, except what was horned into her, for at least twenty hours; and, when she began to eat and drink, it is my opinion it caused a simultaneous movement among the worms, which brought on the fit, and death as the consequence.

Yours, &c.

P.S.—The worms were all alive when the mare was opened.

CASE II.

On the 25th of March, 1848, Mr. Pidcock, Agnes Meadow, sent for me to a horse, and requested I would attend as soon as possible, as "his horse was no sooner out of one fit than he went into another."

On my arrival I found the horse eating hay, and to all appearance having nothing at all the matter with him. The pulse was about the natural standard, and regular. I was informed that he had been attacked with "something like fits" every hour during the morning; and it was supposed that the first began in the night, as his body shewed bruises in several places.

I took him out of the stable myself into a field close by; when all

on a sudden he stopped, and began to tremble and look wildly about him, then staggered round me twice, and fell. When down every limb became convulsed—the teeth ground together—the nostrils dilated—and the eyes seemed almost ready to start from their orbits, revolving in a most singular manner. The altered expression and momentary changing of the countenance, and all in a few minutes, were truly astonishing. These symptoms ceased; after which he lay still for a few minutes longer, then got up and walked into the stable, apparently not much worse for his fit and fall.

Treatment.—I bled him freely, and administered a brisk cathartic. The fits never returned. A few tonic mercurial balls were afterwards given. During the operation of the physic this horse evacuated a great number of worms.

I have opened several yearling colts who have died in these epileptic convulsions, and in every case they were very full of worms.

Yours, &c.

Ashbourne, Nov. 10th.

PROTRACTED GESTATION IN A COW.

By ———, Leek.

Dear Sir,—If you think the following case worthy a place in your Journal, it is at your service.

The subject was a well-bred short-horned cow, belonging to Mr. Critchlow, butcher, of this town, which he bought in Ashbourne, with two others, in Nov. 1848, warranted in calf, and expected a short time after Christmas. The day after she came home I was requested to see her, as she seemed poorly. I found her looking bad in her coat, manifesting great stiffness, especially in her hind limbs; and continually voiding small quantities of urine; the bowels constipated; the pulse but little affected. I administered magnes. sulph. combined with zingib. and tinc. opii, followed up with tonics, gentian, &c. on which she gradually improved, although the stiffness continued for some time. Indeed I thought, as well as the owner, there was some irritation in the kidneys, brought on by driving, since she had been observed to frequently make water on the road.

Some time in the spring the owner called on me to know what he was to do, as the cow had not calved according to warranty. He thought of applying for some remuneration; although, he

said, she seemed as large as ever, and that the calf, or something where that ought to be, was still easily felt. On visiting her I found the cow much improved in condition. A substance on the off side was easily to be felt. On examining *per rectum* I could feel a large substance which seemed hard and solid, and gave no pain to the cow on being pressed. There had never been any discharge *per vaginam* from the first. As the cow seemed doing well, and had not taken the bull, I advised him to feed and kill her. The secret would then out, and if there was no calf he could apply to the seller for some remuneration. She was killed the other day, and on opening her, the man said, "the womb was nearly as large as a bushel measure." On cutting into it they found the calf curled up like a dog. Every part was fully formed, although in a state of decomposition. I was unaware of their killing her, or would have had a minute examination.

Leek, 11th Nov. 1849.

MR. A. CHERRY'S REPLY TO "SHOEING SMITHS."

To the Editor of "The Veterinarian."

Sir,—ROCHEFOUCAULT is reported to have said, "that the only thing on which he ought to feel surprise, was the power of being still able *to be* surprised." I confess that such is precisely my position at this moment. I looked on THE VETERINARIAN as a journal devoted to subjects of science, expressed in scientific, or at least plain, language, and in which any subject treated otherwise was not admissible. Guess my surprise when, in the three last numbers of your Journal I see such articles as those by, or bearing a title of, "Shoeing Smiths." It may be my dulness which leads me in the view which I take of such a farago of nonsense—sentences without meaning—satire without point—laudation the most fulsome—wit laboured, but resulting in the most consummate dulness—buffoonery, to which the hacknied lubricity of a clown at a country fair would shine bright indeed; to which must be added, personal invective and ribaldry so coarsely glozed over that its object cannot be concealed: in short, a means taken to abuse, or more properly bespatter with filth, in the absence of argument or of common sense; displaying to the world the most pitiable of all sights, a man forgetful of his dignity and of his self-respect. Well, indeed, may a cognomen be assumed.

As to the mere personality which has been cast against me I care not, for the reason of the American, namely, "that it gave him

a terrible wrench to kick at nothing;" but I do feel for the dignity of our professional organ. I do feel that truth cannot be advanced by such things. It may produce a laugh in the thoughtless and unreflecting; but to those who have any feeling of propriety it can only raise a smile of pity or feeling of regret.

It appears that I have incurred the writer's wrath because I wrote against a series of opinions, partly false and partly true. I condemned them for the first, and exposed what was claimed improperly as new discoveries in the other. They may have been, and probably were, *new* to the writer; but to me they were so old that I cannot recollect the origin of them; at all events, they were imbibed from a variety of sources—reflection, perhaps, putting them together in a tangible form. Many of these opinions were imbibed in early life from my father, whose practical knowledge of these matters is probably equalled by few; from the intercourse of some of the best, the thinking, men of my own day, some now no more, and others still able and ready to give their own opinions and views; from the writings of old authors, and of the best of the new. From these sources, sobered down by long experience, many failures in the practical working of the theories formed from time to time, working out my ideas from the chaos natural to the possession of so much material, I have endeavoured to put together the results of my analysis for the benefit of those who may not have been placed in circumstances so favourable as myself.

I have no "*discoveries*" to announce, no "crotchet" to advocate; resting perfectly contented to see principles carried out and science evinced, instead of wild theory and egotistical dogma. There was a time when I should have been ready to enter the field as a "discoverer;" but, alas for my vanity! I found so much had been written and said on the subject, that my *new* knowledge was only an "oft told tale." I do not mean to say that there is nothing to be discovered or made more clear; but it cannot be done by placing a part in a position contrary to Nature, or viewing it under circumstances different from its usual or natural condition.

I have not hesitated to denounce error or to expose presumption; it would be too much to expect that I should allow any one to assume that he had taught me that which I had long known; and further, knew that others were as well acquainted with as myself. It has been more than hinted to me, that I ought to meet experiments by experiments. Child's play! As if every observation, fairly carried out, was not an experiment. If I were to give, *seriatim*, the experiments I have made, no one volume of THE VETERINARIAN would contain them. I can look back with pleasure and say, that I have seen enough from the inevitable results of accidents and disease to render it unnecessary for me to put any animal

to pain or torture like a Majendie; and so may every man who keeps his eyes open and thoughts at work: neither have I found it requisite, to enlighten me, to put dead parts into a vice in order that I might see whether they would *squeeze* together or not.

I have not forwarded my papers in continuation, as I had some matters of very considerable practical importance to lay before the profession, and those required some care in preparation; I, therefore, deferred them till they were complete. Even on this point, in which I know that there is much that is new, I claim no originality; I put them forth as points for consideration, open to attack if wrong; and if it can be shewn that I have taken false views, I am ready, for my own sake, to retract them. But a controversy must be open, and supported by the undisguised authority of a name, and even that name must be one bearing some consideration, or I will not notice it. To those who will deal plainly and fairly with me I shall not run from or refuse a fight; but such compositions as those by "Shoeing-Smiths," though they may be very witty and intelligible to Hodge the son of Hodge, my intellects are not sufficiently clear to see, nor will my self-respect allow me to notice them.

I have said thus much—parenthetically as it were—in explanation of feelings and objects, and shall not again advert to them; but requesting insertion,

I am, Mr. Editor,

Yours obediently,

ARTHUR CHERRY.

Nov. 10, 1849.

AZOTIZED AND NON-AZOTIZED FOOD.

By G. T. BROWN, M.R.C.V.S., Regent's Park.

To the Editor of "The Veterinarian."

Sir,—IN the last number of THE VETERINARIAN is an article by Mr. R. Read, of Crediton, on the influence of azotized and non-azotized food in the production of different conditions of the blood, as connected with the formation of fat and muscle. As the conclusions he arrives at are singularly original in themselves, differing not only from a "Liebig or a Playfair," but from the whole scientific world, I hold it just, in a matter of such import, to submit his observations to the test of argument, estimating their value as they are found consistent with universally admitted principles.

In the use of the term azotised or non-azotised, as indicating the elements of nutrition and respiration, I propose we keep in view their real signification, because, on reference to Mr. Read's table, I find he has placed wheat and barley among the non-azotised substances, a chemical error that is too obvious to require any discussion.

From a perusal of the entire paper, we glean the results of Mr. Read's experiments on the blood of the horse, ox, sheep and dog, extending over a considerable number of years; such results being comprehended in the following sentence, which I give verbatim, to avoid the chance of misstatement. "An animal is raised to the highest pitch of muscular development, as the result of being fed on an abundant supply of azotised food; if he be bled, the clot is found in excess. Reverse the diet to non-azotised food, the muscular development is soon lost, and adipose deposit takes its place. If blood be now taken, the serum has the balance in its favour."

Such, he asserts, are the results of his observations, and on the faith of a scientific man we accept them as correct, the more so as they contain nothing physiologically new or striking. That in an animal fed on azotised compounds there should exist an extreme development of muscular tissue, and in connexion, of course, a relative increase in the fibrin of the blood, is an admitted axiom; and that consequent on an excess of fibrin there should be a relative decrease of serum, is a position that does not require much reasoning to invalidate, inasmuch as the blood can only occupy a certain space in the animal machine; and therefore if one portion be in excess, another must proportionately decrease. On the other hand, that an animal fed on carbonaceous or non-azotised food should possess an excessive development of adipose tissue, and a diminution of muscular structure in connexion with a loss of fibrin, and, therefore, an excess of serum, is a conclusion equally obvious as reasonable. Thus the experiments in themselves only go to prove what no one ever doubted; but far different are the inferences he has deduced from them, viz. that "azotised food goes to the formation of clot, and the non-azotised to the formation of serum." The first position, that azotised food produces fibrin, we, of course, admit—in fact, it has never been disputed; but to the second, "that non-azotised food produces serum, we offer a most unqualified dissent, as being chemically and physically anomalous. The only argument Mr. Read advances in support of his assertion is the fact, that serum exists in excess in fat animals, viz. in animals fed on non-nitrogenised matter; but this isolated point explains nothing; it is simply a physical fact, and all physical facts, as Mr. Mayhew justly observed in *THE VETERINARIAN* a short time back, "are of

little value, except as data for the deduction of principles;" however, we proceed to examine the inference at length, "that non-azotised food produces serum."

We first take the composition of non-azotised compounds as a class, and we find them chemically constituted of carbon and hydrogen, with a small proportion of oxygen, but devoid, as their name implies, of nitrogen or azote: in the second place, taking the constitution of serum, we discover in 1000 parts there exists 900 of water, and of the remaining hundred 86 parts of albumen, a highly azotised principle, the salts of soda and potass making up the total. Now, then, comes the question, can serum be formed from matters which bear no relation to it in chemical constitution? No species of reasoning can convince us that albumen can be formed from non-azotised food—can it, then, from the water? Truly, we have the elements requisite to form watery vapour, but be it remembered that 1700 cubic feet of watery vapour will be condensed to one cubic foot of water, and then what becomes of the carbon and excess of hydrogen? Further, it would be very inconsistent with a knowledge of Nature's economy to accuse her of having recourse to such a complication of proceeding for the attainment of so simple an end. But there is no necessity to have any supposition in the argument. I think I have demonstrated the position to be a chemical impossibility, inasmuch as the only organic principle in serum is albumen, which is not present in non-azotised food, while the main bulk is water, which is taken into the system ready formed.

Let us now proceed to the second original inference, which is comprehended in this sentence, "May we not physically infer," he says, "that fat is a secretion from the serum of the blood, and its formation the result of atomic arrangement in the cells of the adipose tissue." This inference he bases on the fact, that serum is in excess in fat animals, stating his opinion in the concluding part of his paper, that the "non-azotised matters go to the production of serum, and thus contribute to the formation of fat." Now, it appears to me that had Mr. Read generalized his ideas a little he would never have fallen into such an extraordinary error; for while he would undoubtedly have observed an excess of serum in fat animals, he would have discovered the same phenomenon in lean ones, even to a more marked degree.

However, entertaining the proposition for the sake of argument, we must proceed to ascertain the relation serum bears to fat in chemical constitution; the point, however, is so connected with my prior arguments that it will require but little consideration. Serum we have ascertained to consist of albumen, water, and a few salts; fat we know to comprise carbon, hydrogen, and a small proportion of oxygen; in fact, analogous in composition to non-azotised food:

therefore, I imagine the fallacy of the view, that fat is a secretion from serum, is obvious: water, being an inorganic compound, cannot be decomposed to form an organic principle; and albumen does not exist in sufficient quantity, even were its elements appropriately arranged for the purpose: the theory cannot be assumed; in fine, to view it at length it would appear to outrage common sense. Let us consider the way in which serum and fat must be formed in accordance with Mr. Read's theory. The non-azotised food, consisting of carbon, hydrogen, and oxygen must be converted partly into albumen by the addition of nitrogen, sulphur, and phosphorus, while the remaining elements may form watery vapour and carbonic acid, I presume, by the addition of oxygen. I know of no other part they can play than to form fat. This same non-azotised matter has to be reconverted into its original form, and then deposited in the cells of the adipose tissue, a species of double metamorphosis as unnecessary as it is inconsistent.

Such are the reasons which occur to me as militating against the deductions the essayist has drawn from his observation: it, of course, remains for him to consent to their correctness by his silence, or to refute them by more cogent arguments; in either case I premise the object to be none other than the elicitation of truth by the most legitimate of all channels, discussion.

I remain, Sir, your's obediently.

Park-crescent Mews West, Regent's Park,
November, 1849.

CHLOROFORM IN TETANUS.

By Caustic.

I DO not recollect having read or heard of any case of tetanus in the treatment of which chloroform has been employed; therefore I feel it my duty to forward you the result of three cases of the kind occurring in my practice, in which I used this agent (as my mite in return for the valuable information I have from time to time gleaned from your excellent Journal), and hope it may prove as successful to those who may give it a trial as my anticipations lead me to expect.

Five years ago I had the misfortune to lose a valuable horse of my own from traumatic tetanus, in which bleeding, counter-irritation, opium, calomel, aloes, &c. were pushed to their full extent without avail; two other cases since that time, subjected by me to a similar mode of treatment, have shared the same fate.

On the introduction of chloroform as a medicinal agent, I determined, the first opportunity, to put its power to the test in the treatment of this awful malady.

September 9, 1848.—A pony, about thirteen hands high, was sent to my infirmary, a distance of four miles. It was with great difficulty he reached it, although they informed me little appeared the matter with him when they started from home.

I saw him in half an hour after he was admitted: by that time the symptoms were of the most aggravated character. He was a complete fixture, incapable of progressing a single step; the jaws were firmly set; cartilago-nictitans protruding; rigid state of the muscles, accompanied with other symptoms usual in this disease, too well known to need minute description.

From the owner I ascertained he had worked, eaten, drunk, and appeared in perfect health the day previous, and had been in his accustomed stable. The weather was dry. But on examining him carefully over, I discovered no wound or injury to the feet from shoeing. It was, therefore, clearly a case of idiopathic tetanus.

I am sorry that I did not at the time take particular notice of the quantity of chloroform I administered after the first dose.

Treatment.—Gave Barb. aloes 3x in solution, hydrarg. chlorid. 3j, tr. opii 3j, chloroform. 3j; put on two warm horse-rugs, flannel bandages to the legs; back-raked; and threw up per rectum a large quantity of warm water, containing aloes and *sapo mollis* in solution; kept him as quiet and free from noise as possible, allowing no one to see him for two hours; at the expiration of which I found him about the same. I then gave more chloroform, tr. opii, and nitric æther, and applied the ext. belladonnæ, rubbed down with nitric ether, to the whole of the head: half an hour afterwards I found him better. Gave more chloroform, and used an enema of the same in warm water. In half an hour after he was evidently under the action of the medicine. The muscles appeared gradually to relax from their inordinate action; the legs were more flexible; the eyes became heavy, and a sleepy appearance gradually stole over the countenance. In a short time he fell down, and lay perfectly quiet. I could now, for the first time, perceive the pulse: it was 98, extremely irritable, assuming alternately a soft and wiry character. I allowed him to remain in this state for some time. A deep sleep followed for nearly an hour. At length the medicine seemed to be losing its effect. Twitching action of the muscles was again observable all over the body; trismus was increasing. By applying to the nostrils at intervals a sponge containing chloroform, I kept my patient in a sleepy, unconscious state for about ten hours; from which time, in consequence of not using the sponge, he gradually regained a state of consciousness. In a short time he

got upon his legs, and looked about for food. All tetanic symptoms had left him; nothing but debility and great soreness of the mouth remaining. From this time he gradually recovered, the subsequent treatment being confined to dieting, and a little lotion to the mouth. In nine days he returned to his work, and has continued well up to the present time.

CASE II, was a horse that had been placed under my care for broken knees. At the time cicatrization of the wounds was taking place, symptoms of tetanus came on. Trismus, with twitchings and rigidity of the muscles, were the leading symptoms; nothing like, however, of so intense a character as in the previous case. I gave aloes, opium, calomel, and chloroform, repeating the latter twice, at intervals of an hour. Warm clothing was used; and luke-warm poultices to the knees. This completely restored him.

CASE III.—Traumatic tetanus in a colt, arising from a splinter of wood that had run into the fore leg, below the fetlock, just at the place we perform neurotomy, the low operation. A farrier had been in attendance, but had allowed the skin to heal over the splinter of wood. In a fortnight after tetanus came on. The same person attended for two days; but the colt getting worse, I was called in to see the case. The animal appeared in a dying state. I soon discovered the cause of the disease, much to the annoyance of the farrier, who was immediately discharged. I extracted the wood, and took out about an inch of the nerve, upon which it was embedded. I gave similar medicine as in the foregoing cases; but death took place in an hour afterwards: that was, however, no more than what I fully anticipated, and does not detract in the least from the merits of chloroform.

BRONCHITIS, ATTENDED WITH VOMITION.

By HENRY WM. HOOPER, *M.R.C.V.S.*

Veterinary Infirmary, Cheltenham,
November 13th, 1849.

To the Editor of "The Veterinarian."

Sir,—Thinking that the history of the following, I believe, singular case, may not be entirely devoid of interest, I am induced to forward it to you for insertion, should you deem it worthy of a place in our professional and invaluable Journal, so ably conducted by yourself; and

I remain, Sir,
Your's obediently.

William Percivall, Esq.

ON the 31st of last May a bay cart mare, six years old, full of flesh, was brought to my infirmary by the owner, Mr. L—— who resides near this town, affected with what I considered a severe attack of bronchitis; but the only symptom that he noticed or laid any stress upon was her drawing herself up as he termed it “all of a heap;” that, in my opinion, arising from the great difficulty she experienced in the act of respiration, by the membrane lining the bronchial tubes being so thickened by inflammation then existing as almost to prevent the requisite amount of pure atmospheric air to serve the purpose of supporting vitality. I could ascertain nothing particular respecting the history of the case prior to my seeing her, with the exception that she had not been to work for the last three or four days, and that she heaved. The symptoms that presented themselves to me were the following:—Animal very dull—countenance indicated pain—off her feed, though not an entire loss of appetite—pulse 73, and rather inclined to be full—breathing quick, painful, and by the membrane of the bronchi being so constricted, a whistling noise was occasioned—respired air hot—visible mucous membranes considerably injected—mouth and extremities hot—bowels constipated, and apparent attempts at vomition. I ought to have mentioned that, on auscultating the sides, I found that what little air did permeate the lungs had free egress and ingress; but, on the application of the ear to the anterior part of the chest, great obstruction existed to the passage of the air through the bronchial tubes.

Treatment.—V.S. to the extent of five quarts, when the pulse began slightly to falter. Gave her the following ball,—Aloes Barb. ext. ʒiij, antim. pot. tart. ʒj, pulv. digitalis ʒss, potass. nit. ʒij, and applied a strong stimulating liniment to the front of the chest and along the whole course of the trachea. Ordered her to be put into a loose box, and to have bran mashes and linseed tea diet. Having only a short distance to go, she was taken home, with directions that, if any of the unfavourable symptoms that I named should appear, to send for me immediately.

In about a couple of hours after the mare got home I met one of the owner's men coming for me, who said his master wished me to go directly, for the mare's stomach would soon be outside her. I was there in the course of half an hour, and she vomited several times in my presence; indeed, to use the slang phrase, she was “as sick as a dog.” But what I am now about to relate will surprise you still more, viz., that the ejected masses consisting of green-meat mixed with a great quantity of mucus, passed entirely through the oral opening, and not through the nasal, as is usual when vomition does occur in the horse. This act, I think, was accelerated by the administration of the antim. pot. tart., and, as I

did not fear ruptured stomach or diaphragm, I was rather pleased to see it than otherwise, feeling assured that it would be the means of removing some offending agent. I remained in attendance on my patient for an hour, and, finding that attempts at vomition continued some time after the stomach, I thought, had evacuated itself of its contents, I thought it as well to try and stop the gastric irritability, by, at the same time, repeating nearly the medicine I had administered before, as it doubtless, when the vomition commenced, did not remain in the system; I therefore sent the undermentioned draught:—Aloes solut. ℥ij, pulv. digitalis ʒj, potass. nit. ʒij, bismuth. trisnitrat. ʒj, acid. hydrocyanic dil. ʒj, aquæ distil. ℥viiij.

I saw my patient again in the evening. She had not vomited since the draught was given her, and her bowels had not passed any fæces since I first saw her. The other symptoms remained about the same. The legs being cold, I had them hand-rubbed and bandaged, backraked, and injected an enema of warm water to assist the action of the medicine, being afraid to administer more aperient medicine until a longer time had elapsed from that which had been given.

June 1st, 6 A.M.—The carter not knowing the treatment the mare was under, imprudently gave her, before he left last night, a forkful of green meat, which has had the effect of causing her to vomit twice during the night, and she still attempts it. Her bowels have responded, but she does not purge—only just sufficient at least to shew the medicine has had a salutary effect. The breathing is somewhat relieved—the pulse, though still high (68), is altered in character—extremities warm—the mucous membranes have assumed a more healthy appearance. On the whole, I consider that my patient may begin to date her recovery from this time, though at such a critical juncture it will not do to be too sanguine. Repeated the draught sine aloes solut., and ordered the liniment to be continued, which had already produced a certain amount of counter-irritation.

9 P.M.—Visited my patient again this evening. Pulse 57—breathing more easily performed—bowels in a healthy state; has not tried to vomit since she had the last draught, but she coughs very frequently: this is what I think she endeavoured to do instead of vomiting, but was unable, from the constricted state of the membrane of the bronchi, and thus a counter-action was set up in the stomach; but, then, you will say that the vetches seemed to be the more direct cause. I think they had a tendency so far as this, that the small quantity of air which passed into the lungs was not sufficient to inflate them, therefore the stomach, being filled with that which was bulky, prevented the lungs acting upon that, and Nature relieved herself by disgorging the contents of the stomach.

June 2d, two P.M.—Pulse 49—breathing and all the other symptoms in a more favourable way—cough stronger. The draught continued. I shall not intrude further upon your space, but merely add that the mare gradually got better. The draught was omitted the next day, but again repeated, after which she had some fever and cough balls, the cough being the last of the symptoms that remained when she went to work, which was just a fortnight after I first saw her.—May I be favoured with your opinion of the case?

*** The mare, we think, must have eaten or had something given to her that disagreed with her.—ED. VET.

VETERINARY JURISPRUDENCE.

DEVIZES COUNTY COURT, *Tuesday, September 11, 1849.*

[From "The Devizes and Wiltshire Gazette."]

Burrows v. Norris.

THIS was an action brought by the plaintiff, a coal-hauler at Trowbridge, to recover the value of a horse purchased of John Norris, a miller at Stert, near Devizes, on an alleged breach of warranty; and, like most "horse cases," presented some rather singular features, the evidence adduced being as contradictory as could be well imagined, not only as to matters of fact, but, in the opinions given by the veterinary surgeons examined, all of whom were members of the Veterinary College, and gentlemen who have not only had considerable experience, but who are looked upon as men possessed of superior skill in their profession.

A Jury was summoned to determine the question.

Mr. *H. Hulbert*, who appeared for the plaintiff (in the absence of Mr. Wittey), stated that the sum sought to be recovered was £15..19s., on an alleged breach of warranty; £11..15s., the amount paid by the plaintiff to the defendant for the horse in question, and £4..4s. veterinary expenses incurred in attending the animal whilst alive, and in making a post-mortem examination. The Jury would hear, from witnesses who would be called, that on the 2d of July Burrows bought a horse of defendant, stipulating that a warranty should be given with it. This was agreed to, and the purchase was accordingly made. But it would appear that, immediately after the plaintiff had got the animal home, it shewed symptoms of disease, and continued to get worse till its death, which took place

on the 19th of August. Unfortunately, soon after the purchase, the plaintiff himself was taken ill, and, in consequence of this, it was not until the 20th of July that any intimation was given to the defendant of the unsoundness of the horse, when he got a person named Hale to write to the defendant, and explain the state of the animal. Of this communication, however, the defendant took no notice; and, as the horse got worse, Mr. Thomas Dyke Broad, a veterinary surgeon at Trowbridge, was called in, and continued to attend the animal till the 19th of August, when it died. Now the only question for the Jury to determine was, whether at the time the animal was sold it was sound or unsound? It was no question for their consideration whether the defendant *knew* it was unsound. An unrestricted warranty had been given, upon the faith of which the plaintiff purchased; and, consequently, the only question for them to determine was whether, in their opinion, the animal was sound or unsound at the time of sale. Mr. Hulbert then called

William Burrows, the plaintiff, who proved the purchase of the horse of the defendant on the 2d of July, and the receipt of a warranty of its soundness. Soon after he had the animal home (he said) it began to blow terribly in its work, and he accordingly got a person named Hale to write to Norris about it. The horse, however, continued to get worse, and about six weeks after became very ill. Mr. Broad was then called in, and, after attending it six days, it died.

In his cross-examination by Mr. Norris (who conducted the defendant's case), Burrows admitted that, after the letter had been sent to the defendant by Hale, he had taken the horse to Melksham fair for sale, but the only bidding he was there offered for it was £8, by a man who, in passing, said "I'll give you £8 for that broken-winded horse." The animal was put to work in a one-horse cart, weighing about five or six cwt., to bring coal from Radstock to Trowbridge, a distance of twelve miles, over a road on which there are several steep hills, so steep that additional horses are kept at the foot of some of them for the purpose of helping the loads up. The load put into the cart averaged between twenty-seven and twenty-eight cwt., or sometimes, perhaps, a cwt. more. This journey to Radstock and back is usually performed three times a week, the cart starting about twelve o'clock at night and returning about four the next afternoon.

One or two other witnesses proved the sale of the horse and the warranty; after which

Mr. Thos. Dyke Broad was called. He stated that he was a veterinary surgeon at Trowbridge, and that he was called to look at the animal in question on Monday the 13th of August. He

found the horse suffering from inflammation of the bowels, which it was stated to him had been of about twelve hours' standing; he had also understood that the horse had had some medicine given to him by a blacksmith at Philips Norton, on its road from Radstock. The animal was rolling about in the stable, apparently in great pain; and Mr. Broad, in order to give it more attention, had it taken to his own stables, where in about six or seven hours it appeared to have recovered. The next day he saw it again, and the pain seemed altogether to have ceased; but on the Wednesday, when he came to examine it, he found that it had inflammation in all its feet. Upon discovering this, Mr. Broad bled the animal, gave it more medicine, and attended it daily up to Saturday, when it appeared to be getting better. Its feet had got nice and cool, it could move about the stable, and seemed so well, that on Saturday Mr. Broad thought the animal had quite recovered. On Sunday morning, however, upon opening the stable door, he was struck by symptoms which he had not observed before. The horse was grunting—its pulse was up to 20 or 30 beyond its natural height—and, upon putting his ear to its sides, Mr. Broad found that the animal had chronic disease of the lungs, and dropsy to a great extent in the chest. He could detect that the left lung was not perfectly sound, and the right one appeared to be half gone. Upon discovering this, Mr. Broad immediately told the owner that there could be no doubt that the horse was unsound, and that it would die; and as there would, very probably, be a dispute about it, he had better send for another veterinary surgeon to see it. Mr. Vincent, of Devizes, was accordingly sent for, but by the time he arrived the horse was dead. Both gentlemen then made a post-mortem examination of the animal, and they found half of the right lung hepatized, or become solid and incapable of respiration, shewing that there had been long-continued disease going on; the membranes, also, they found had become hardened, likewise shewing a long continuance of disease—he (Mr. Broad) should say for twelve months; the left lung also shewed patches of hardening; and why he knew that the disease had been of long standing was, because the membranes had become hard and tough, not shewing recent formation; in fact, it was a process which would not take place suddenly. The liver, likewise, presented the appearance of similar disease; whilst the quantity of water that had accumulated in the chest was, Mr. Broad said, he should think seven or eight gallons. Mr. Broad, therefore, gave it as his decided opinion that the animal could not have been sound on the 2d of July.

In reply to a question by Mr. Thos. Lavington, of Poulshot, one of the Jury, Mr. Broad said he had no doubt that the horse had had water in the chest for a considerable time, and had worked

with it; and Mr. Broad mentioned an instance of this in a horse belonging to Mr. Wilkins, which at one time had had its chest half full of water.

Mr. Broad was subjected to a long cross-examination by Mr. Norris, the principal object of which was to endeavour to elicit from the witness the possibility of the disease described in the horse in question having been produced by the hard treatment to which it was subjected by the plaintiff—a treatment very different to what it had before received; and in support of this hypothesis, Mr. Norris quoted an opinion expressed by Professor Spooner (the lecturer on anatomy and pathology at the Royal Veterinary College), that an adhesion of the pleura and other marks of disease which had been described as existing in the present case might be produced in forty days. Mr. Broad, however, would not agree in this opinion. The Professor, no doubt, was a very good lecturer; but he had never seen much practice, and he could speak with the greatest certainty that the state of the horse's chest in this instance could not possibly have been brought about within the time of the horse being sold and the time of its death. And, further, Mr. Broad said that a horse, even though suffering under the amount of disease he had described, might look fat and well, and do its ordinary work—such work as this one had been put to by the plaintiff.

Mr. John Phillips Vincent was next examined, and in the main his evidence was corroborative of that given by Mr. Broad, though Mr. Vincent could not agree that a horse suffering under such disease as that of which the animal in question died would be able to perform its ordinary work; and he very much doubted whether the horse had ever had the inflammation of the bowels which it was stated to have been suffering from when Mr. Broad first saw it. Of one fact, however, he had no doubt,—that the disease of the horse's lungs had been of long standing, and had existed for a considerable time previous to the sale. As a proof of this, Mr. Vincent stated that the pericardium was covered by a false membrane (attached by a fibrous tissue), which had become so hard that it required some degree of force to detach it. But the long pre-existence of disease was more particularly perceptible from what was discovered after the removal of the false membrane covering the left lung, viz. the indentations upon the surface of the lung, covered by a dense white fibrous tissue of very old date—the evident remains of a disease contracted, beyond all question, many years since. The subjacent lung, Mr. Vincent added, was also in an indurated state; but although there was extensive hepatization of the right lung, he did not attach more importance to that, as the organization was more recent.

Mr. Norris then addressed the Jury at some length, on the part

of the defendant, dissecting with much ingenuity the evidence of the medical gentlemen; and proceeded to call a number of witnesses in whose hands the horse had been for the last nine years, and who described it throughout the whole of that period not only as a sound horse, but a horse that had never been known to have a day's illness, nor to have exhibited the slightest symptom of chronic disease of any sort.

The first person called was the defendant, who had the horse in his service at Crookwood Mill for two years, and who stated that a better horse he never had, and that his only reason for parting with it was, that he was about to leave his present occupation. The next, was Mr. Robert Wild (a respectable farmer at Coate), the party from whom the defendant bought the horse, who gave the most positive testimony that during six years (the time he had the horse in his possession) he had not a better or a sounder horse among the two-or-three-and-twenty that he was then in the habit of keeping: in short, said Mr. Wild, "if all my horses had been like this one, I could have done with two or three or less;" and the sole cause of his parting with it was because he could not keep it in the grass field, it was such a horse to jump. Next came the carter who had driven the horse, and had the entire care of it, for Mr. Wild, during five years previous to its being sold to the defendant, who said the horse had never been sick a day, or shewn any thing like a cough, during the whole of that time. After him, Mr. Robert Hale, a farmer at Erchfont, was examined, and he had known the horse during the two years the defendant had it. He had seen it working in a cart against a hill so steep that it was impossible to get on more than a dozen yards at a time, and he considered the animal to be "a downright good sound one." He did not believe there was a better one in the whole parish. And Mr. Henry Bishop and Mr. John Snook (both farmers of Erchfont) gave evidence to a like effect; which was borne out by the blacksmith who had shod the horse for a year and three-quarters previous to its getting into the plaintiff's hands.

After this Mr. Robt. Elford was called; and Mr. Elford said that he had been a member of the Veterinary College twenty-three years, and, in his opinion, all the disease that had been described by Mr. Vincent and Mr. Broad might have been contracted in two months. Mr. Elford, however, did not go very minutely into the reasons which induced him to arrive at this conclusion.

Mr. John Coleman, of Tilshead (also a member of the Veterinary College), was then examined. Having (he said) heard the evidence on the part of the plaintiff, in his opinion the death of the horse was to be attributed to pleura-pneumonia and inflammation of the

lungs. As to the appearances of hepatization, those he considered it possible to have occurred within a few weeks prior to death, as well as the effusion of water in the chest; and he added, that, if such disease as had been described had existed, the horse would necessarily have shewn some symptoms of it in its breathing: it would have exhibited weakness, and most probably would have had a cough. In short, the appearances which Mr. Vincent and Mr. Broad had described were quite consistent with the fact of their having been acquired within a recent period of the death—he should say a few weeks.

Mr. Lavington.—Have you dissected horses which have died from pleuro-pneumonia?

Mr. Coleman.—I have; and I have seen the same symptoms as have been described in this case. The operation of the disease is very rapid. I have opened an animal affected only a few days, and the internal appearances have been precisely similar to those which have been described to-day.

Mr. Norris.—And the appearances you have heard spoken of do not necessarily import the existence of chronic disease?

Mr. Coleman.—Certainly not; they may arise from recent causes.

By *Mr. Hulbert.*—I have been in practice six years, and have made many *post-mortem* examinations. Dropsy is a sequel to pleuro-pneumonia.

Several questions were put by the Judge to this witness; after which *Mr. Hulbert* addressed the Jury on behalf of the plaintiff; and his Honour having summed up the case, the Jury requested permission to retire for a short time, to consider their verdict.

In about a quarter of an hour they returned into Court, when Mr. Blandford, of Rowde (the foreman), said—We have weighed well the observations of your Honour; and although we consider the evidence of the professional gentlemen very strong, it is not, in our opinion, equal to the facts which have been stated on the part of the defendant. The one is only suggestive, the other is beyond dispute; and I have a monitor within myself, having unfortunately only one sound lung, and which prevents running hardly three steps without coughing, which has had some influence with me in coming to my decision in this case.—Our verdict is for the defendant.

His Honour said he thought no one could find fault with the reasons which had operated on the minds of the Jury in arriving at this verdict.

R E V I E W.

Quid sit pulchrum, quid turpe, quid utile, quid non.—Hon.

RECUEIL DE MÉMOIRES ET OBSERVATIONS SUR L'HYGIÈNE ET LA MÉDECINE VÉTÉRINAIRE MILITAIRES, *rédigé sous la Surveillance de la Commission d'Hygiène, et publié par Ordre du Ministre Secrétaire d'Etat au Département de la Guerre.* Paris, 1847.

MEMOIRS AND OBSERVATIONS ON MILITARY VETERINARY HYGIENE AND MEDICINE, *compiled and arranged under the Superintendence of the Sanitary Committee, and published by Order of the Secretary at War.* Paris, 1847.

THROUGH the kindness of Mr. Gloag, Veterinary Surgeon to Prince Albert's Regiment of Hussars, to whom they have been sent by M. Magendie, from Paris, two volumes of these "Memoirs and Observations" have just reached us. Their title-pages are of themselves inviting; but the volumes acquire, in our eyes, a peculiar interest from being accompanied with a narrative of the circumstances under which they have been compiled, as well as from a feeling of professional fraternity with the respected authorities whence their materials of compilation have been derived.

We learn from the "Introduction," that, in 1843, the Secretary at War (then the Duke of Dalmatia) appointed a committee of *hygiène*, with instructions to examine into any and all propositions touching the *hygiène* and conservation of the horses of the French army.

The constitution and personnel of this committee sufficiently indicate the nature and importance of the functions entrusted to it: 1st, were appointed physicians, agricultural chemists, and members of the Institute; 2dly, civil veterinarians, members of the Royal Academy of Medicine; 3dly, a *maître des requêtes*, a person versed in administrative questions relative to the organization of the cavalry and to the remount service of the army; 4thly, military veterinarians, elected out of the best informed and most

experienced in the service. Lastly, M. Magendie was appointed president of this honourable and learned re-union.

Between the years 1843 and 1847, the questions submitted severally to the army veterinary surgeons by the Secretary at War have been the following :—

1. A topographical and medical description of the garrison and cantonments your regiment occupies.

2. A description of the stables, their aspect, their interior arrangement, the nature of the soil, and their capacity.

3. Nature and nutritive qualities of the forage, &c. Nomenclature of the plants composing the common meadow hay you receive.

4. Allowance of green-meat. Number and ages of horses placed upon it.

5. Nature of the waters given to your horses, and their chemical composition.

6. Statistics of the diseases observed from the 1st January to the 31st December among the horses of your regiment.

7. Statement of your losses during the year, arranged according to age, &c.; also a numerical statement of horses recruited in the course of the year.

8. Mode of treatment adopted in each kind of disease; opinion on the contagion or non-contagion of glanders, together with any observed facts.

9. Exposition of general or special causes believed to have contributed to the production of disease.

10. Hygiènic measures put in force to preserve your horses in health: the best means, in your opinion, to adopt.

11. Sanitary state of the horses of your corps.

12. Breed of horses in your corps.

13. Mode of shoeing you practise. Any ameliorations you suggest.

Isolated or limited to a single year, such information might have turned out useless to the state, and valueless to science; but, collated through a series of years one with another, the annual reports of the veterinary surgeons of the army already supply data promising at no distant period to furnish resolutions to problems hitherto warmly contested.

One simple statement will shew how numerous and varied the documents must be which yearly reach the committee of hygiène, since it really amounts to nothing less than a hygiènic history, pathological and statistical, of the 60,000 horses in the different

armies spread abroad through the various provinces of France and Algeria. These documents, containing the sanitary condition of the whole of the horses of the French army, are analysed by the committee, and framed into a report for the information of the Secretary of State.

Quitting the "Introduction," as containing nothing further that need detain us, we commence the body of the work with

EXPERIMENTAL INQUIRIES

On the Alimentation of Troop Horses, instituted by Order of the Secretary at War.

In May 1811, the Barrack Board, with the sanction of the Cavalry Committee, proposed to the Secretary at War some modifications in the regulated ration (of forage) for troop horses. This proposition was forwarded by the Secretary to the committee of surveillance at the Veterinary Infirmary of Lamirault, in order that it might there undergo thorough scientific and practical investigation. M. Boussingault was charged with this investigation, and made to the committee the following

REPORT

On the new Composition of the regulated Ration intended for Troop Horses, at the Suggestion of the Barrack Board.

The Barrack Board, after having attributed, in a great measure, to the insalubrity of the generality of the stables the lamentable condition of the French cavalry regiments, have given it as their opinion that the inferior quality of certain descriptions of forage, their ill-managed commutations, together with the frauds so easy of commission in mingling different qualities of hay, are so many causes, in addition to others, which appear to have their origin in the bad hygiènic conditions of the cavalry quarters in general.

After having observed that hay is the only forage concerning which complaints are made, the oats and straw rarely provoking any, it is proposed to substitute a certain augmented proportion of oats in lieu of so much hay, with a view of maintaining greater regularity in the ration of forage, and so rendering it less liable to variations in alimentary ingredients.

They therefore recommend,

For the Reserve Cavalry.

In lieu of 11·0166 lbs. of hay . . .	8·8102 lbs.
of 11·0166 lbs. of straw . . .	11·0166 lbs.
of 7·9519 lbs. of oats . . .	9·2539 lbs.

For Light Cavalry.

In lieu of	8·81 lbs. of hay	. . .	6·60 lbs.
	of 11·01 lbs. of straw	. . .	11·01 lbs.
	of 6·60 lbs. of oats	. . .	8·37 lbs.

[The rations for the British cavalry are, 12 lbs. of hay, 8 lbs. of straw, and 10 lbs. of oats per diem; no distinctions being made between heavy and light dragoons.]

From several series of experiments, conducted with great care, on feeding troop horses on various kinds of food, separately and combinedly, the results shewed, that oats and straw constitute the best feed for horses; that hay is the least to be preferred; that barley comes next to oats and straw; lastly, rye; and that the combination of straw with one of the cereals is the best alimentary mixture.

Horses fed exclusively on corn have been found to drink less; their dejections have turned out less copious, and their transpirations less abundant, than in horses fed upon either hay or straw, and their energy has proved superior.

And, besides, it has been remarked that horses that have been allowed their total regimental ration by weight in oats, do not consume more than two-thirds at the most, and rather less than half at the least.

Horses satisfy themselves sooner with corn than with hay or straw.

We have likewise, from the various experiments we have made, been led to the conclusion that oats and straw, in less quantity than hay, will put horses in better condition, and better heart.

This first experimental result will necessarily be influenced by the determination of the nutritive equivalents; and the more so, as it is not altogether in accordance with theoretical deductions from chemical analysis.

CHEMICAL INQUIRIES

Relative to the foregoing Experiments on the Alimentation of Troop Horses.

Composition of Forages.

Forage.	Ratio.	Ashes of Normal Matters.	Ashes of dry Matters.	Fatty Matters.	Azotic Matters.
Hay	42·09	5·59	6·45	3·9	8·45
Straw	40·49	5·67	6·32	2·40	4·95
Oats..... ..	46·32	3·74	4·47	3·3	44·3
Barley	40·32		4·88	2·7	43
Rye	42·45		4·89	4·75	44·5

With a view of ascertaining the chemical results of feeding horses upon these aliments separately and combinedly, six horses devoted to experiment were put into three classes, and each class were fed on a diet consisting of hay, straw, and oats, but in different proportions for each class.

For ten or twelve days succeeding the commencement of the experiment, the dung and urine voided by each horse were carefully collected ; and these matters were analysed in a manner to determine the quantities of water, organic substances, ashes, and mineral salts, contained in them. The analysis led to the following results :—

In all three classes the dung-balls exhibited an analogous composition. On an average they have yielded 74·0 of water, 2·5 of ashes, and 23·5 of dry organic substance. The proportions represent the average composition of the solid excrements of horses kept on the regulated ration.

The urines have not presented great differences. All have exhibited an alkaline re-action, and all have been turbid, properties possessed by the urines of horses in general. The fluids have been filtrated with a view of separating their deposits, which, collected and weighed, has been afterwards analysed.

The deposit has varied, in respect to weight, from 0·5 to 5·0, the weight of the urine. It was found to be the more abundant,

according as horses ate more hay and less oats. The analysis shewed it to be composed almost entirely of carbonate of lime, traces of sulphate, and a little sand. No phosphate (of lime) was found.

Filtrated urines shewed the same composition in all three classes, a composition which may be represented, in the average, by 9·100 of dry matter, and 3·00 of ashes.

The next part of the "Report" enters into the question

Of the Introduction of New Hay and New Oats, and Artificial Grasses, into the Ration of Troop Horses.

Believing that new hay affects the health of horses, there is an order against receiving any for troop horses, in the South of France, before the 11th of September; in the North, before the 1st of October.

[In our own country no new hay is admitted prior to the 14th of October.]

The experiments made with a view of ascertaining the effects of new hay so far rather favoured than condemned its use, as to suggest the expediency of rescinding the regulations prohibiting its introduction for two months after it has been got.

Doubts were likewise thrown, through experiment, on the injurious or disadvantageous use of new corn.

In respect to the artificial grasses, such as lucerne, and sainfoin, and trefoil, the Committee came to the opinion, that, introduced in the proportion of a third, or even a half, into the ration of hay, they would be serviceable. Indeed, in situations where the natural meadow grasses are indifferent, they recommend the ration being made up, if possible, entirely of the artificial hay.

ANNUAL CONCOURS

FOR THE SOLUTION OF QUESTIONS RELATIVE TO THE CONSERVATION OF THE HORSES OF THE ARMY.

*Letter addressed to M. the Marshal the Secretary-at-War by the
President of the Sanitary Committee.*

Sir,—With the view of exciting a spirit of emulation and a taste for study among the medical officers of the army, the Secretary-at-War annually submits for their solution a series of

questions in medicine, surgery, and pharmacy; a gold medal being awarded to the officer acquitting himself the best.

The Sanitary Committee, Sir, ask you to extend this measure to the veterinary surgeons of the army. Questions relating to the conservation and management of troop horses will be annually proposed to them; a gold medal, of value to be fixed by yourself, being awarded to the authors of the most approved answers.

(Signed) MAGENDIE.

This recommendation was carried into effect; and the result was the production of a Memoir on Farcy, for which the gold medal was awarded to M. Gillet, Veterinary Surgeon *en premier* to the 7th Regiment of Lancers. From this "Memoir" we shall at some future time cull some extracts.

Foreign Extracts.

COMPARATIVE VIEWS OF THE STOMACH AND INTESTINES IN OUR DOMESTIC ANIMALS.

By M. COLIN, Chef de Service at the Alfort School.

NATURE, ever wise in her plans and skilful in the execution of them, has instituted between the general economy and the digestive apparatus a most perfect accord; nor has she taken less pains in suiting the organs of digestion to the herbivorous, carnivorous, or omnivorous habits of the animal.

The stomach presents great uniformity of configuration in all mammifera, the ruminant excepted, in which it comprehends four divisions or compartments. In all these animals the organ is placed transversely in relation to the median plane of the body.

In solipedes the stomach is divided by a transverse depression, more or less conspicuous, into two compartments. Internally, this line of demarcation is rendered the more noticeable by the one being a continuation of the esophagean lining, and being therefore white, thin, little vascular or sensible, and covered by a thick epithelium; while the other, destitute of epithelium, is, on the contrary, rosy, thick, very vascular, and very sensible, being designed for the secretion of the gastric juice.

In these animals (solipedes) the stomach is separated from the inferior abdominal parietes, as Lamorier has remarked, by large

folds of intestine, and particularly by the sub-sternal muscle (the *rectus abdominis*), which sustains it during the direct action of these parietes in the act of vomition. The esophagus enters the viscus perpendicularly, about the middle of its small curvature, almost immediately after having passed the right column of the diaphragm. At its (terminant) orifice its substance is thick, firm, and white; its cavity is completely closed; its mucous lining in folds resembling a radiated flower; but these neither constitute a semilunar valve, as Lamorier has said, nor a spiral valve, as Gurlt has insisted.

In this singular disposition resides the sole cause of the impossibility or extreme difficulty of vomition in solipedes. A good idea may be gained of its mode of action by applying to the case of the stomach the theory of the hydraulic press.

Now, let us take the viscus in a state of distention with aliment, liquids, and gases, and submit it to the exclusive compression of the abdominal muscles (supposing its muscular coat to be paralysed through extreme distention). At this moment the cardia is closed, and the parietes of the stomach around it perfectly plane; and as the pression is according to the law of proportion upon the surface which supports it, it must be immensely feeble upon a surface surprisingly small, as represented by the central point of the cardiac orifice. Is it not, then, evident that the smallest resistance offered by the parietes of the esophagus is sufficient to prevent the dilatation of the opening and the escape of alimentous substance? This is by no means the case in the omnivora and carnivora, who so readily vomit: their esophagus, with its thin walls, terminates in an infundibulum where hundred times as much surface is able to resist proportional pression, to a degree that cannot be overcome by the most energetic contraction.

The capacity of the stomach, which in most animals is great in proportion as that of the intestine is small, is but inconsiderable in solipedes in comparison to their size. It would seem as though they are designed to derive nourishment from aliments of a much more substantial nature than ruminants, and that their digestion no more than commences in their gastric reservoir.

The capacity varies according to the size of the animal and the description of the aliment, as well as probably to several other circumstances, such as privations, diseases, &c. As a minimum, I have found it in a very small horse; and as a maximum, in a horse of colossal size. The most ordinary capacity, in subjects of middle size, is from 15 to 16 litres.

The relation existing between the capacity of the stomach and that of the intestine is pretty uniform. In a horse of very small size it was as 1 to 13; i. e. the capacity of the stomach was thirteen times less than that of the intestine. In a second and third

horse the relation was as 1 to 10 ; and this last I believe to be the most usual.

We shall shew hereafter that the horse, of all animals, has the smallest stomach, relatively to his size and to the volume of his intestine ; a particularity whence we may derive some important physiological deductions.

The ass has a stomach of larger size in proportion than the horse. In a donkey of middle size it contains 15 litres, as much as it does in many horses of small stature ; which may explain why the ass is able to live upon a grosser diet, one-fifth nutritive, in large volume.

The stomach of the ruminant is not remarkable alone on account of the multiplicity of its compartments, for that we find in different mammalia, such as the dolphin, the deer, the porcupine, the kangaroo, &c. ; it is likewise, and especially so, on account of the admirable disposition of its divisions, of which the first three are, as was said before, but dilatations of the esophagus, while the fourth is the veritable organ of secretion of the gastric juice, and of chylous transformation.

Of these four divisions or compartments, the first, or *rumen*, much exceeds in volume the others all put together. It communicates with the *reticulum* by a circular opening, placed close to the insertion of the esophagus, and is encircled by an annular fold larger on the right than on the left side, which duplicature is formed out of the coalition of the coats of the rumen with those of the reticulum, the whole constituting the valve described by some anatomists.

The reticulum, situated in advance of the right sac of the rumen, which it prolongs, is smaller than the omasum in the ox, but larger in the goat and sheep. Superiorly it presents, at a point corresponding to its small curvature, the commencement of the esophagean canal ; and posteriorly, the opening which leads into the omasum. This aperture, very near that of the rumen, is at least eight times smaller than this last. Its narrowness well explains the reason why aliments, which first fall into the rumen and reticulum, cannot pass into the omasum without being softened and very much divided first.

The omasum, the veritable manifolds, into which pass matters yet too hard to be chymified, possesses a very complex interior through the mode in which its *lamellæ* are arranged, in accordance with the esophagean canal. These lamellæ, of unequal dimensions, all take their departure from the sides of the canal, which they multiply a great many times, in order, in their return, to re-constitute at the entrance of the omasum into the abomasum an aperture at least twice as large as that of the reticulum into the former. The abomasum, on the contrary, is bound by a mucous membrane

which, in place of being studded with enormous papillæ and covered by a thick epithelium, is velvettèd, very vascular, ruby, abundantly furnished with mucus, and ten times augmented in its surface by having *plicæ* running obliquely from the omasum even to the pylorus.

Compared with the intestines or with the bulk of the body, the capacity of the stomach of the ruminant is enormous. An ox's stomach contained 215 *litres** (French pints) of water, while the intestines of the same subject held but 125. The stomach of a cow of middle size contained 290 *litres*, while its intestine held but 173; so that in the two cases there is but very little difference in the proportions.

In the calf, and even in the foetus, the rumen is proportionately less developed than in after-life; the abomasum, which acts almost alone at this period, being of considerable volume, though it never equals that of the rumen in the adult. In a subject from eight to nine weeks old, the stomach contained 22 *litres*; of which $6\frac{1}{2}$ went for the abomasum, and $15\frac{1}{2}$ for the other three cavities; making the former, as to the other three, as 1 to 2·38.

In the sheep and goat, the stomach is in volume rather below this standard relatively to the intestine. In a goat, its capacity was 29 *litres*; of which 25 were for the rumen, 2 for the reticulum, 9 *decilitres*† for the omasum, and 3 *litres* 3 *decilitres* for the abomasum. The pig, which may be regarded as the type of omnivora, possesses a simple stomach, but much more in form like that of a carnivorous animal than the horse's. Its capacity is considerable. I have found in it from $7\frac{1}{2}$ to $8\frac{1}{2}$ *litres* in pigs of moderate size, at a year old. Compared with the intestines, in capacity, it is as 1 to 2, or as 1 to $2\frac{1}{2}$.

In the dog and cat species the stomach is pyriform. In capacity, of course, it varies much in dogs of different size. In the smallest I have found it to contain 6 *decilitres*; in the largest 8 *litres*.

In cats there is no great variation. From 2·37 *decilitres* to 3·57; or, as contrasted with the capacity of the intestines, as from 18 to 22 with from 24 to 25.

The stomach of the rabbit reminds us much of that of the horse, as to exterior form and the disposition of the cardia, but is more incurvated. Its capacity is great, compared with the size of the animal.

From what has been said it will be seen that, in relation of capacity of stomach to that of intestine, the ox stands first,

* A *litre*, or French pint, is equal to 1 pint 15 oz. 13 43m. English, or nearly 2 pints.

† A *decilitre* is the tenth part of a *litre*.

the sheep and goat next, then the dog, cat, pig, and rabbit; and, last of all, the horse, who, of all domestic animals, possesses, relatively speaking, the least capacious stomachic reservoir.

At another time we may notice the differences existing in such animals in the disposition, structure, length, and capacity of their intestines.

Recueil de Méd. Vétérinaire, June 1849.

THE VETERINARIAN, DECEMBER 1, 1849.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

“Bideford, Devon, August 10th, 1849.”

Sir,—“BY this day's post I forward to you ‘The Somerset County Gazette;’ in the columns of which you will find reported a case of warranty of a horse.* Its perusal will furnish you with another proof of the discrepancy of opinion reigning among veterinary surgeons as to the cause and effect of disease. ‘Doctors will differ’ sometimes: nobody can prevent it. But I think it is time something was done to endeavour to reconcile their conflicting opinions, and so enable us to make our appearance to better advantage when placed in the witness box.”

Thus writes to us Mr. Gregory, M.R.C.V.S., practising at Bideford. And we cordially agree with him, that “it is time something was done” to diminish the frequency and flagrancy of those disgraceful scenes which to our discredit, and we may add our injury, are so often enacted in the veterinary witness-box. While the honest and enlightened member of our profession cannot help wincing every time he reads accounts of such scenes, he may console himself with the reflection, that the fault does not lie altogether at the door of the veterinary surgeon. So long as all sort of evidence is received in courts of law on veterinary questions—all kinds of opinions allowed to have weight on matters which, being professional, can be set in their true or proper

* The account of the trial was inserted in our Number for September last.

light by men alone who have made the profession their study—so long will there be given in evidence opinions—if “opinions” such trash is to be called—which no professional man can for a moment entertain. At first sight, it might seem a very easy matter to get rid of such evidence as this, by disqualifying every person as a veterinary witness who was not a regularly educated veterinary surgeon; or, in other words, who could not in court produce his diploma. Such a prohibition, however, though it might please us as veterinarians, would tread heavily upon the toes of some practitioners in farriery of the old school;—men who are known to be well informed, much experienced, and much respected in the practice of their art, and, for that reason, could not be regarded even by ourselves but as a measure severe and unfair. The only equitable and at all satisfactory mode, as it appears to us, in which this difficulty could be overcome, would be to draw a line, back to some agreed-on period of time, and enact that practitioners in farriery in practice before that time should be admitted as qualified evidence; but that, from and after the said date, every person appearing in court to give evidence on veterinary matters should be required to produce a diploma of qualification from one or other of the veterinary colleges.

But Mr. Gregory's letter runs—“Discrepancy of opinion reigning among *veterinary surgeons*.” This is another affair; one that comes nearer home—one that reflects directly upon our own body. Nobody acquainted with the history of veterinary science in Britain will be surprised at there being occasional “discrepancy of opinion” between what we, at the present day, may fairly designate the *old* and the *new* school. In days when a man could leave the forge-fire, and, whether he could manage to “write his own name” or not, obtain a diploma as veterinary surgeon; and when another person, clever at reading and writing, and who knew a little Latin besides, could obtain the same certificate of qualification in a few months; in days such as these, we repeat, when veterinary surgeons were manufactured, who, when they came to be summoned into court as professional evidence, could hardly appear to any greater advantage than the “ignorant” farrier or pretender to science, “discrepancy of opinion” was likely to “reign.” Between veterinary surgeons such as these, and others who entered

court really with some knowledge of their profession, and who, it is to be taken for granted, had a character at stake, how could any other exist than "discrepancy of opinion?"

But between even the acknowledgedly qualified themselves—between veterinary surgeons possessing knowledge and experience, and reputation as well—there will on occasions occur "discrepancy of opinion." All over the world "doctors differ." Perhaps, it is but right, or at all events natural, they should do so. Nay, it would appear that *doctors* differed more than any other class of men. How is this? Is it that they profess a science of a more speculative and disputative character than other of the liberal arts?—or is it that the professors, from education or habit, are, *inter se*, more argumentative or contentious than members of other professions? That medical science is one yet a long way off from perfection, every day, every hour, indeed, brings something before the scene but too sorrowfully to remind us. Its total powerlessness over the direful pestilence—the *cholera*—which has only now—if, indeed, it has quite—departed from us, is a terrible opprobrium of medical ignorance and insufficiency. And upon that subject there has prevailed, as we all know, "discrepancy of opinion" enough among medical men, to cast physic, and its practitioners together, in the eye of the public, all "to the dogs."

In mathematical science, certain data correctly worked out lead to certain results. But in medicine the very data we have to work upon are apt to prove fallacious. "The existence of disease cannot be determined by weight or measure;" signs and symptoms alone must determine its seat and character; and it will depend upon the discernment and ability and experience of the doctor to what extent from such telegraphic indications its nature and tendency is developed. Here, then, lies open a wide field for diversity and "discrepancy" of opinion. Scientific cultivation of this field seems to us to be every day drawing its boundaries into narrower compass; and yet, when fresh fields can be descried opening beyond the one we are working in, we seem to grow discouraged, and to doubt that our investigations are doomed ever to have an end.

We have no right to quarrel or find fault with the evidence of a professional man admitted to be intelligent, and guaranteed to

be honest. We may differ from him—widely differ in opinion with him; and such difference or “discrepancy” may surprise—may even *disgust*, if they like—a jury of unprofessional persons. Still, his evidence is honest, and so is our own. He may be right, or we may be right. It may be difficult or impossible for judge and jury to decide when doctors differ or disagree. But that we cannot help. The fault lies with the imperfection of our science; not at our door. This is a kind of “discrepancy” which we may call natural or unavoidable; very different from that which happens between one veterinary witness who knows his business and another whose knowledge is defective, or who pretends to a knowledge of what he is in reality profoundly ignorant. It is this last kind of “discrepancy of opinion” to which, we take it for granted, Mr. Gregory more particularly alludes, when he writes “as to the *cause and effect* of disease.” But, when conflicting evidence happens to come on either side from diplomaed veterinary surgeons, although the cause of the discrepancy may be manifest, still, so long as judge and jury are unable to distinguish between a well-informed medical witness and one who is not, how is such discrepancy to be guarded against?

We shall probably return to this interesting subject in our next.

THERE are recorded in our present Number no less than four cases of Tetanus in which chloroform was experimentally exhibited: three by our practical friend who chooses to write under the *sobriquet* of “Caustic”—albeit his nature appears to us anything else but caustic; and one by Mr. J. K. Lord. By “Caustic” the medicine was, in two cases out of the three, administered by the mouth; and in the one in which a sponge wetted with the anæsthetic agent was applied to the nostrils, this not being done until chloroform had been given internally, it could be considered only as adjunctive to the operation of the medicine introduced into the stomach. This creates a difficulty when we come to draw inferences from the case, which we feel the more desirous of doing, as being a *cured* one; and what adds to this difficulty is, the circumstance of the chloroform having been administered in conjunction with ether and opium, two agents of themselves, as potent anti-spasmodics, of considerable efficacy in tetanic affections. Notwithstanding our scruples, however, to come to any random or

hurried conclusions on the alleged efficacy of this novel and powerful remedy, we cannot withhold our thanks to "Caustic" and Mr. Lord for the enterprising character of their therapeutic experiments. Whenever tetanus may shew his grim and ghastly face to us again, we promise them we will meet him with a full bottle of chloroform; and we trust there are many in the profession beside ourselves who will be prepared for the awful visitant, armed with the same formidable instrument. Meanwhile, we would refer such of our readers as may desire more information on the subject to an analagous case, viz. that of "*Idiopathic Tetanus, cured by Inhalation of Ether*," at the French Veterinary College at Alfort. They will find it reported in THE VETERINARIAN for January last, at page 21.

At the last Meeting of the Council, notice was given for the continuance of the suspension of the By-Law on Apprenticeship; and pending the result of competent legal investigation which is being instituted, such By-Law will not, in all probability, be put in operation.

MISCELLANEA.

THE VETERINARY ART IN TURKEY.

IN a number of the Berlin Veterinary Journal for 1846 (*Magazin für die Gesammte Thierheilkunde*), is a long account of the veterinary art as practised in Turkey, with a full *exposé* of the indolence, ignorance, and superstition of the Turks, by Godlewky, who was sent by the Prussian government to found a veterinary school at Constantinople. The greatest difficulty proved to be the dissecting of dead animals, to which the Mahometan religion is strongly opposed. At first he was obliged to lecture to his class through the (dragoman) interpreter. Another peculiarity of the Turks is, they will not have their old, worn-out, useless, or crippled horses, destroyed; but rather turn them loose in the street or on the roads to shift for themselves: a situation in which they are often reduced to skeletons, if not attacked and devoured by the troops of hungry masterless dogs infesting the streets and neighbourhood of Constantinople. Our tip-top shoeing-smith would also be surprised to know, that the Turkish shoeing-smith takes up his station at the corners of the street, like the shoeblacks in Paris, with tin-like bar-shoe, of all sizes, to fit or not fit any foot; and, with his nails and tools, thus shoes any horse that comes. All horses are shod, young and old. Even the oxen are shod which are used for agriculture and draught; no horses ever being used in harness those of the ambassadors and other Franks excepted.

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